



# Intentions and Realities in Doctoral Education in Norway. New Policies for Doctoral Education in Norway and the Implications for an Inter-Institutional Research School (WNGER II) – Some Preliminary Findings

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This policy and practise review article examines how new policies and policy documents impact a graduate-level research school in Norway, Western Norway Graduate School of Educational Research II (WNGER II) on a general level. WNGER II is a research school consortium with seven universities and university colleges, six PhD programmes, 97 PhD candidates, and 48 supervisors. It was established in 2018 to complement existing PhD programmes and strengthen PhD education in Western Norway. A pilot phase (2016–2017) was used to identify and address specific challenges in PhD education as experienced in the seven universities and university colleges of Western Norway. Against this backdrop, this policy and practise review article builds on our previous research on doctoral-level education and aims to illuminate the more general learning and teaching conditions in the WNGER II consortium in light of national PhD regulations. This subject will be examined in light of the relationships among the arenas of formulation (macro-level), transformation (meso-level), and realisation (micro-level). Frame factor theory is used as a lens to examine how new policies impact the doctoral level of higher education, and the main data source of the study is document analysis. The policy and practise review shows that the new national policies on doctoral education add a new layer of requirements on several levels, a situation that can be demanding and challenging for institutions and might be considered part of what has come to be known as a certain tendency toward “public management” within higher education. Such new policies and requirements constitute changing frame factors, which can enhance the focus on educational, study, and teaching quality at the doctoral level in WNGER II. For some institutions, such as research schools, it seems particularly fruitful to deal with challenges through collaborative measures. A general finding seems to be that if WNGER II (and similar research schools) is to optimise its potential as a collaborative research school, increased integration amongst its six different PhD programmes is required. The study finds that certain actionable recommendations could be relevant to consider in relation

to the institutions' frame factors to facilitate further development of the research school. There are also several limitations on the study, since this is the first phase of formative dialogue research and only deals with a general policy review. Therefore, the findings should be interpreted with great caution.

**Keywords:** research school, doctoral education, educational quality, PhD-fellows, policy regulation, frame factor theory

## INTRODUCTION

This policy and practise review article examines how new policies and policy documents impact a doctoral-level research school in Norway. The study is inspired by a formative dialogue approach, which examines the implementation processes of the WNGER II consortium from 2018 to 2020 by addressing frame factors connected to new national policies on PhD-level education. The formative dialogue research approach used in the study is a process of learning based mainly on the analysis of documents, but also of dialogues with PhD candidates and partner institutions. Its main intention, at this stage, is to develop knowledge relevant to further development of the research school.

First, the introduction contextualises the study; second, the main part presents extensive assessments of policy/guideline options and implications; third, actionable recommendations are summarised, and, finally, findings are discussed.

Norway has implemented much of the content of the Salzburg Principles (Salzburg 1) of the European University Association [European University Association (EUA), 2005; Direktoratet for Høyere Utdanning og Kompetanse (HK-Dir), 2020b], as well as of Salzburg 2 [European University Association (EUA), 2010]. In particular, the principles emphasise the integration of doctoral education into policy documents and institutional strategies, as well as the importance of research supervision and assessment [European University Association (EUA), 2010, 2015]. The Salzburg Principles reflect a process of improvement of doctoral education at European universities. Improvement processes deserve critical attention and should also be seen in light of new opportunities and challenges fuelled by other important changes, such as a shift from monographs to article-based dissertations, as well as the increasing importance and diversity of doctoral support structures, such as regional, national, and international research schools. Research schools can be integral or complementary to existing programmes at participating home universities (Ludvigsen and Ulfsnes, 2013). This study builds on our previous research on doctoral-level education (Krumsvik and Jones, 2016; Krumsvik and Røkenes, 2016; Krumsvik et al., 2016a,b, 2019, 2021). It aims to give a preliminary assessment of conditions in WNGER II consortium in light of national PhD regulations. Such conditions are primarily examined in light of the relationships amongst the arenas of formulation, transformation, and realisation in the WNGER II institutions to answer the research question below:

1. *What kind of frame factors seem to have been vital for the relationship between policy and practise in WNGER II institutions from 2018 to 2020?*

## WESTERN NORWAY GRADUATE SCHOOL OF EDUCATIONAL RESEARCH II (WNGER II)

WNGER II, established in 2018, is a research school in Western Norway with one host institution and six partner institutions; six of the seven institutions offer PhD programmes. WNGER II was designed principally to complement the existing six PhD programmes and strengthen PhD education within pedagogy, educational sciences, and health sciences for the 97 PhD candidates enrolled and 48 supervisors involved in the research school, where over 90% of PhD candidates write article-based theses. Experiences from the first phase (WNGER 2007–2010) and the pilot phase (2016–2017) were used to identify and address particular challenges faced by the seven participating universities and university colleges. Several areas for improvement were identified in the pilot phase; in particular, a gap was noted between policy and practise in the arenas of formulation (e.g., national policy documents within PhD education) and realisation (e.g., the institution's PhD programmes; Lindensjö and Lundgren, 2014). To start bridging this gap, it was decided that the first phase of WNGER II should prioritise improving the obligatory 30–40 European Credit Transfer and Accumulation System (ECTS) credits taught as part of the programme (transferable skills/generic skills, academic writing, and literature reviews). WNGER II PhD candidates would then have access to a broader range of doctoral courses, both within their home institutions and through the research school's complementary programmes. In this way, WNGER II aimed to enhance the individual institutional educational portfolio at the PhD level.

Second, it was clearly stated in the pilot phase that WNGER II must focus on measures that reduce completion time and increase completion rates. However, achieving this aim might be easier said than done, since the evaluation of national research schools in Norway has shown that they have not yet had any significant effect on completion rates and the time taken to achieve completion (Piro et al., 2018).

Lastly, during the pilot phase, small-scale research studies (formative dialogue research; Baklien, 2004) were carried out as part of monitoring the implementation and development process of WNGER II. In addition, WNGER II was developed with the intention of raising awareness around the following important areas within doctoral education in Norway today: sustainability of PhD programmes; psychosocial aspects of doctoral education and the ways assessments are conducted; quality of doctoral supervision; remote teaching as a measure for both the green shift and educational quality; cooperation across the seven WNGER

institutions concerning qualifications; and career development, co-publishing, doctoral committees, collaboration on research applications, and so forth.

## ASSESSMENT OF POLICY/GUIDELINES OPTIONS AND IMPLICATIONS

### Method

#### Document Studies

Document analysis was the main data source in this study. The documents analysed were as defined by Creswell and Clark (2011): “Qualitative documents are public documents (e.g., newspapers, minutes of meetings, official reports) or private documents (e.g., personal journals and diaries, letters, e-mails)” (2011, glossary). The intention in using this form of analysis was to mine data from policy documents and other materials relevant to the study (Merriam and Tisdell, 2016). In this study, national policies within doctoral education were the main data sources ( $N = 10$ ). The analysis aimed to ensure a general and descriptive policy and practise review across all such policy documents rather than an in-depth analysis of each policy document or PhD programme in WNGER II. Therefore, the main focus of the study was to illuminate the general conditions in the WNGER II consortium in light of national PhD regulations from 2018 to 2020. In particular, these were examined in relation to the following policy documents:

- *The National Regulations for Study Programmes* [Kunnskapsdepartementet (KD), 2017]
- *The National Regulations for Quality Assurance and Quality Development in Higher Education* [Kunnskapsdepartementet, 2018]
- *Norwegian Agency for Quality Assurance in Education's (NOKUT) Academic Supervision Regulations Concerning Supervision of the Educational Quality in Higher* (NOKUT, 2017)
- *The Directorate for Higher Education and Competence's Statistics About Doctoral Education, Publications, Academic Staff, etc.* [Direktoratet for Høyere Utdanning og Kompetanse (HK-Dir), 2020b, 2021a,b]
- *The Educational Conditions for Higher Education* [Direktoratet for Høyere Utdanning og Kompetanse (HK-Dir), 2020a, 2021c]
- *The National Guidelines for the Degree of Philosophiae Doctor* [Universitets- og høyskolerådet (UHR), 2018]
- *National Qualifications Framework for Higher Education* (NOKUT, 2014)
- *The National Regulations for Universities and University Colleges* {*Lov om universiteter og høyskoler [universitets- og høyskoleloven* (Kunnskapsdepartementet (KD), 2016)}
- *White Paper, St. 18, Concentration for Quality. Structural Reforms in the University and College Sector* [Kunnskapsdepartementet (KD), 2016]
- *The Evaluation of Norwegian Educational Research [The Norwegian Research Council* (Norwegian Research Council (NRC), 2018)].

As new and changed frame factors might have been launched in these policy documents, frame factor theory is explained in more detail below. In addition, supplemental data were taken from PhD course and seminar evaluations, supervision seminar evaluations, and field dialogues with partner institutions and the WNGER II panel.

### Theoretical Framework

This policy review applies frame factor theory as a theoretical framework (Lundgren, 1999; Lindensjö and Lundgren, 2014). Frame factor theory was developed to understand how society's impact on the education system can be expressed through a target system, an administrative system, and a legal system. It is often applied as a theoretical lens in educational planning and educational analysis and is based on the idea that there are external factors in pedagogical contexts over which institutions, academics, and teachers have no direct control, but have a major impact on the outcome of educational training and teaching.

A gap often exists within doctoral education between the arenas of formulation and realisation (Krumsvik, 2016a,b; Krumsvik et al., 2019, 2021) in regard to educational quality, study quality, and teaching quality at the doctoral level. Linde (2016) uses three arenas to describe this process and explain why it is so difficult to implement decisions in complex organisations. There is seldom a straight and linear relationship between what is decided on a central level (in the so-called formulation arena, on the macrolevel) and what is finally concretised and practised in institutions (in the so-called realisation arena, at the microlevel). Things happen along the way. Policy documents and other steering documents need to be interpreted and applied by faculty leaders, PhD programme leaders, supervisors, and PhD candidates [the so-called transformation arena (micro-central level)] or at mesolevel (Linde, 2016). In other words, it is important to address how national PhD policies impact educational quality (macrolevel), how the application of these policies eventually unfolds in regard to study quality in PhD programmes (mesolevel), and how this impacts teaching/course quality of PhD candidates.

Against this backdrop, one of the main foci of this study was to examine whether (and, potentially, how) WNGER II handles changed frame factors connected to new policies in this inter-institutional collaboration within the WNGER II consortium. **Figure 1** illustrates the analytical lenses in this formative dialogue research (Baklien, 2004). The figure illustrates the focus on educational quality (macro), study quality (meso), and teaching quality (micro) at the doctoral level. If such a framework or perspective is applied when carrying out formative dialogue research (Baklien, 2004) in WNGER II (described in Krumsvik et al., 2021), it is not to be expected that all the PhD candidates will experience the full implementation of every regulation and guideline. Regulations and guidelines set up by, for example, NOKUT need to be transformed by six different PhD programme leaders and 48 supervisors in WNGER II before they are applied. The PhD programme leaders at the six institutions lead programmes of different sizes with different subject disciplines and diverse traditions and resources. They have different numbers of candidates from

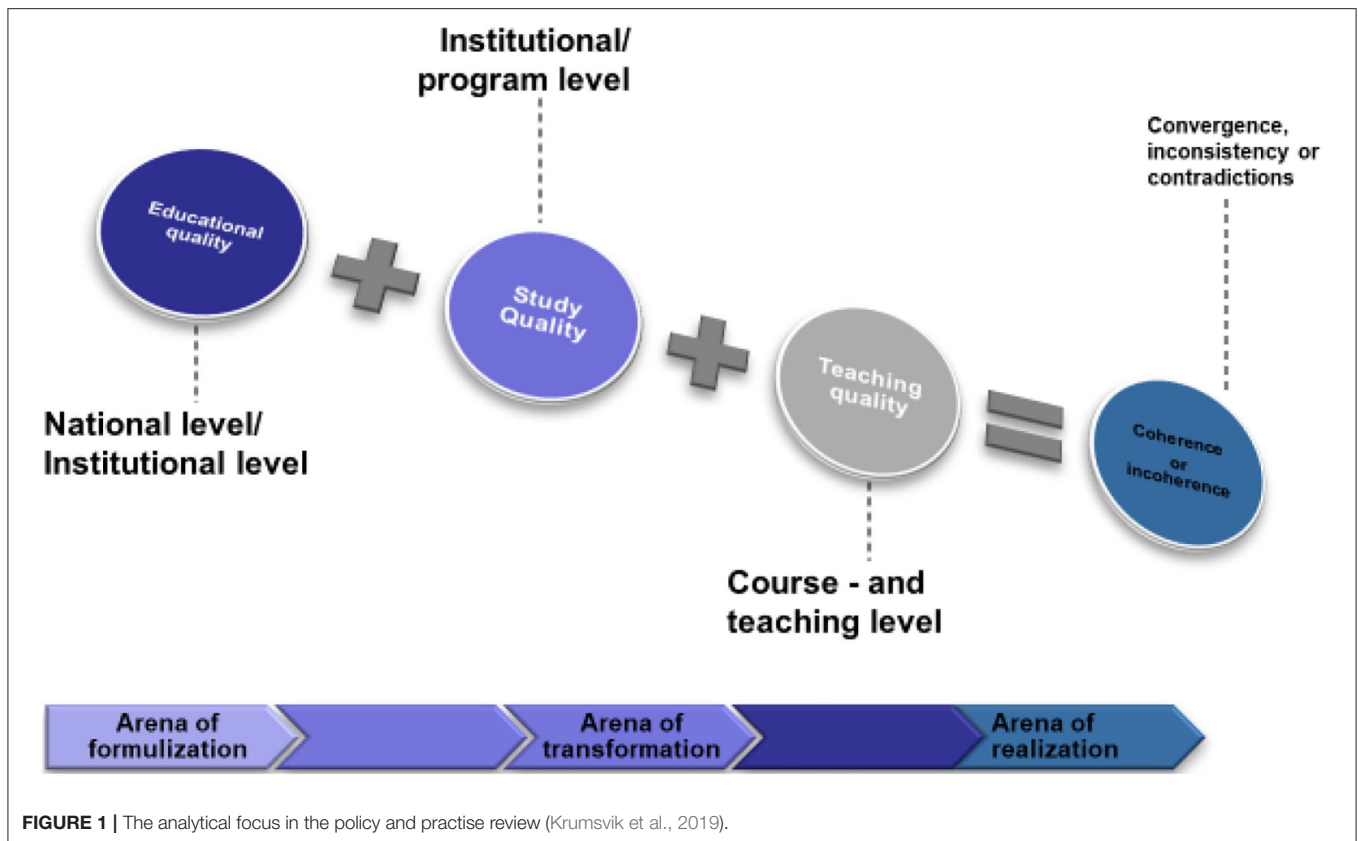


FIGURE 1 | The analytical focus in the policy and practise review (Krumsvik et al., 2019).

different sub-disciplines within pedagogy, educational sciences, and health sciences as employees. Some of the PhD leaders are also supervisors of PhD candidates who belong to their subject sections, while others are not.

The supervisors, in contrast, naturally have different experiences and work under a range of conditions. Some have had many candidates and have been supervising for decades; others are beginners and are supervising their first candidate ever. The PhD candidates in WNGER II are all enrolled in institutional PhD programmes, but their conditions as candidates and employees are, nevertheless, different. Some, for example, are doing their daily work at the PhD programme institution and have a supervisor who is working in an office close by and with whom they can regularly discuss matters in person. Others are also working at their PhD programme institution, but they have supervisors who are working somewhere else, sometimes far away or even in another country. Others, still, are external candidates who conduct their work at other universities or university colleges and visit the PhD institutions at which they are enrolled only occasionally.

## National Policy Regulations and the WNGER II Institutions

During the last 5–10 years, the PhD system in Norway has become more regulated, and this development has changed some of the frame factors for the PhD programmes. This is partly a result of the white paper, St. 18, *Concentration for*

*Quality. Structural Reforms in the University and College Sector* [Kunnskapsdepartementet (KD), 2016], in which the Ministry of Education emphasises the importance of strengthening doctoral education in Norway. In this part, I give a general description of the context within which this strengthening occurs.

*Lov om universiteter og høyskoler* (universitets- og høyskoleloven) § 3-3 states:

Institutions accredited as scientific state university colleges have the authority to accredit study programmes themselves at the lower level. Within disciplines where they can award a doctorate or equivalent, the institutions themselves can accredit the study they offer at the lower and higher grade levels. For disciplines where the institutions cannot award a doctorate, they must apply to NOKUT for accreditation of higher education degree programmes (Kunnskapsdepartementet, 2018, p. 1)

Six out of seven institutions have accredited their own PhD programmes in WNGER II, having proved it is sufficiently sustainable. NOKUT (2017), nevertheless, recommends that, to perform quality assurance of an accredited PhD programme, it should be externally evaluated by expert committees (and NOKUT) from time to time<sup>1</sup>

<sup>1</sup>More information about NOKUT's accreditation processes can be found here: [https://www.nokut.no/siteassets/om-nokut/nokut\\_academic\\_supervisions\\_regulations.pdf](https://www.nokut.no/siteassets/om-nokut/nokut_academic_supervisions_regulations.pdf).

A rather new phenomenon is that a vast majority of the PhD candidates at WNGER II write article-based theses (PhD by publication), publish scientific articles in international journals (including level-2 journals, which have a high impact factor), and have good exchange opportunities abroad. As required by their own strategies as well as NOKUT's recommendations, the institutions continuously evaluate and develop the quality assurance system for their doctoral programmes.

In general, the PhD regulations at WNGER II institutions state that a PhD should be completed within a standardised study time of 3 years. Thus, WNGER II institutions have both PhD candidates undertaking 3 years of scholarship with no work duties as well as PhD candidates undertaking 3 years of study and one of work duties (i.e., 25% of their time over each of 4 year is spent working). The PhD study programme consists of an organised training part (the educational part 0.5 human years) and independent research work within a special field (2.5 human years). The educational part of the doctoral programme consists of a total of 30–40 credits and consists of a course portfolio of which approximately 50% is made up of mandatory courses in philosophy of science, research methods, research ethics, and so on. The number of PhD candidates enrolled in each institutional PhD programme varies, but each programme has to have a sufficient number to be approved by NOKUT [a minimum average of 15 in the programme at any time and five disputations (thesis defences) per year]. In WNGER II, the six PhD programmes appear to have between 30 and 120 PhD candidates.

Each of the six institutions in WNGER II with its own PhD programme has a quality system for research education that aims to help the candidates achieve the goals of a PhD education. The system consists of different quality aspects, which, although varying in some regards, have the following elements in common: input quality (e.g., doctoral candidates), programme quality (e.g., doctoral education programme), frame quality (e.g., frame factors), performance (e.g., publishing), relevance quality (e.g., employability), and quality control (e.g., quality assurance). The institutions describe and define an objective for every quality aspect and stipulate that the main goals of each programme are to be achieved through underlying quality objectives and associated processes and procedures. Defining measurement methods and indicators ensures information is systematically gathered about the level of achievement of each quality aspect of the system.

The six doctoral programmes at the WNGER institutions aim to ensure that all candidates, upon graduation, reach the learning outcomes defined in the National Qualifications Framework (NOKUT, 2014):

- “The education component of the degree programme will provide education at a high scientific level and contain topics that are relevant to and consistent with the objectives of the programme.
- The research process and dissertation work must be at an international level and carried out in line with the total work time for a PhD scholarship” (p. 8).

Hence, it is reasonable to say that the six institutions in WNGER II with PhD programmes have in place a good quality system for their research education that is sustainable and in line with national recommendations. However, since the new national PhD policies take time to implement and are dependent on a number of frame factors, there will always be room for improvement, both nationally and within WNGER II institutions. Therefore, the following section gives a bird's-eye view of WNGER II, describing some of its strengths and challenges and addressing different aspects of the new national PhD policies.

## A Bird's-Eye View of the WNGER II Consortium and the PhD Institutions Within It

The national PhD regulations in Norway mention a number of requirements that PhD institutions in higher education must meet. Some of these concerns the competence, research activity, ability to collaborate internationally, and so forth of academic staff. Below, I examine such issues at the macro level in WNGER II in light of the policy documents.

The WNGER II institutions consist of one so-called “old university,” two “new universities,” one state scientific university college, and three university colleges. Six of these have their own PhD programmes, and, as with other PhD programmes in Norway, the requirement to have highly competent staff at each institution is important in achieving programme goals.

## National Requirements for Accreditation, Academic Staff, and Quality Assurance

*The National Regulations for Study Programmes* § 2-3, “Requirements for the academic community” [Kunnskapsdepartementet (KD), 2017 p. 4] states that “for study programmes at the doctoral level, the academic environment associated with the programme shall consist of employees with first-degree qualifications, of which at least 50% have professor or ‘docent’ competence”<sup>2</sup>. All the institutions in WNGER II with a PhD programme meet these requirements as part of the accreditation of the programme. However, in Norway, university colleges normally have different research traditions, educational profiles, and strategies for universities, and this is often reflected in, amongst other things, the profile of their staff. On a general level, four of the WNGER II institutions have 48–58% first positions (professor/associate professor or equal), one has 73.3%, one has 77.5%, and one has 93%. At the most research-intensive institutions in Norway, the percentage of first positions is generally high (over 80%), and these institutions have a high number of doctoral candidates and a history of a more typical research culture (the host institution of WNGER II has the second highest rate of first positions amongst staff in Norway) [Direktoratet for Høyere Utdanning og Kompetanse (HK-Dir), 2020a]. Four of the institutions in WNGER II have histories as institutions with professional education programmes (e.g., teacher education, child welfare education, special pedagogics

<sup>2</sup>“Docent” is equal to professor in Norway. See: [https://lovdata.no/dokument/SF/forskrift/2017-02-07-137#KAPITTEL\\_2](https://lovdata.no/dokument/SF/forskrift/2017-02-07-137#KAPITTEL_2).

education, nurse education) and are not as research intensive *per se*, since they have a somewhat different profile. However, their focus on research is changing gradually in part because the national requirements for PhD programmes require a minimum of eight permanent first positions specifically attached to the programme, 50% of which must be professors (or docents), and all the PhD supervisors must have a doctoral degree. New strategies have been implemented to establish an even more sustainable staff attached to doctoral education, and measures such as qualification programmes for permanent employees without a PhD degree have been implemented. Now, a doctoral degree is normally required for all new, advertised permanent positions at both university colleges and universities.

*The National Regulations for Quality Assurance and Quality Development in Higher Education § 3-3*, “Accreditation of doctoral studies,” (Kunnskapsdepartementet, 2018) states that “the subject environment must have depth and breadth within all essential parts of the doctoral programme so that PhD candidates can participate actively in various academic relationships and gain introduction to different perspectives (p. 3).” At WNGER II institutions, these requirements are met through the research strengths of the institutions within pedagogy, educational sciences, and health sciences; where some of the programmes have a rather narrow profile, being situated at one institution, others have a broader profile, being based on collaboration between two university colleges. Given the average size of WNGER II partner institutions within educational and health sciences, it is natural to have only one PhD programme at each attached institution. In addition, WNGER II institutions have underpinning bachelor and master programmes within the PhD subject areas, which recruit candidates to their PhD programmes and are in line with the requirement that “the institution will have graduates at the lower- and higher-degree levels of all study offerings, covering the academic profile of the doctorate” (§ 3-3, Kunnskapsdepartementet, 2018, p. 3). A substantial number of the PhD candidates at WNGER II institutions are recruited from their own former master’s programmes, which can be an advantage in terms of continuity but also a challenge in terms of development of more international recruitment strategies. However, advertised PhD positions in recent years have had an international profile, which has helped meet this challenge. This will also be in line with the national evaluation of the educational sciences, where the expert panel underlines that “institutions should develop their internal strategies for the recruitment of PhD candidates as well as junior researchers, and they should develop more sustained and optimal career opportunities for existing staff” ([Norwegian Research Council (NRC), 2018, p. 71].

In addition, there seems to be variation among the PhD candidates’ competence in academic writing and methods when starting their doctorate, which might be related to how thoroughly these areas are prioritised at the bachelor and master levels both within and outside the WNGER II institutions.

*The National Regulations for Quality Assurance and Quality Development in Higher Education § 3-3*, “Accreditation of doctoral studies” (Kunnskapsdepartementet, 2018) states:

The PhD programme must have a stable and professional environment, consisting of sufficient numbers of professors and associate professorships throughout the entire range of its study programmes. An overall assessment shall be made of whether the academic community has sufficient staff to cover subjects and courses, as well as the supervision the study consists of. The academic environment shall consist of employees with relevant competence. The institution’s assessments must be documented so that NOKUT can use them in their work (p. 3).

As mentioned above, the professional environments at the PhD programme institutions meet these requirements in general, since they have been examined through the accreditation process. However, through document studies [Direktoratet for Høyere Utdanning og Kompetanse (HK-Dir), 2021a], we can observe that, on a general level, the number of professors varies across WNGER II institutions and PhD programmes. For example, some institutions and PhD programmes have two times as many professors as others. In light of such tendencies, we can ask if the opportunities and incentives for career development toward, for example, professorship, becoming a supervisor, becoming a research group leader, and so forth could be improved in some institutions and PhD programmes. It can also be relevant to address and analyse if there are any gender differences to be aware of, since only approximately 33% of professors in Norway today are women [Direktoratet for Høyere Utdanning og Kompetanse (HK-Dir), 2021a; Forskerforbundet, 2021]. For example, the host institution in WNGER II has prioritised women in its career development programmes for young researchers (young associate professors) since 2012, and this might also become a part of other partner institutions’ strategic plans in the years to come. Such measures might prevent a further “Matthew effect” (Merton, 1968) within and between the WNGER II institutions as well as in Norway in general. We next focus on the PhD programmes’ capacity and sustainability.

*The National Regulations for Quality Assurance and Quality Development in Higher Education § 3-3*, “Accreditation of doctoral studies” (Kunnskapsdepartementet, 2018) state:

The institution must document that it has the capacity and recruitment potential to take up at least 15 fellows to the doctorate within 5 years after the startup. In addition, the institution is likely to maintain a doctoral environment with at least 15 fellows over time (...) At least eight of the fellows will have a main job at the institution. In addition, the institution can pick up doctoral candidates with other external funding (p. 3).

Through document studies (DBH), we can observe that some of the WNGER II institutions have recently established a new PhD programme, while others have had such PhD programmes since the 1980s. PhD programmes with more than 30 years of experience and that are situated in large cities in Norway naturally have other established premises (e.g., research infrastructure, etc.), which makes their PhD programme more stable and sustainable and less vulnerable to recruitment problems than newly established PhD programmes in WNGER

II (some of which are situated in the countryside). NOKUT will give new PhD programmes a trial period of a few years to become established, stable, and sustainable, especially where collaboration with other institutions seems to be a natural measure to achieve this. Collaborations, such as WNGER II, seem to address such challenges (the bigger ones help the smaller ones) and help new PhD programmes position themselves to achieve the necessary sustainability, size, stability, and capacity amongst the others in WNGER II. Such collaboration across WNGER II institutions is a reality amongst the 13 PhD courses developed, especially for WNGER II<sup>3</sup>, as shown by professor II positions, supervision responsibility, mid-term evaluation, supervision seminars, course collaboration, disputation opponents, and so forth. This is important for several reasons, not least in relation to the national requirements, which state that “a substantial part of the institution’s study offerings, research or artistic development work, and professional development work shall be within the academic area of the doctoral programme” (§ 3-3, Kunnskapsdepartementet, 2018, p. 5). Here, it seems necessary to examine further whether there is coherence between the academic staff and the sections’ competence, as well as between the PhD programme and the PhD candidates’ research areas, as presented in their theses. Coherence or lack of it might be one of the several reasons that some institutions in Norway experience excellent student throughput and a high completion rate amongst PhD candidates whilst others struggle.

It also appears necessary to raise awareness about why some sections in some institutions in WNGER II have two times as many PhD candidates as others. A higher number of PhD candidates means, of course, more workload, but it also means more supervision opportunities, increased sustainability in research groups, more research power, an increased publication rate, an increased disputation rate, and increased reward funding. This variation seems to be based on some sections’ ability to build up a research culture and obtain external funding from the Norwegian Research Council (NRC) and other sources. A strategy within the WNGER II institutions (but also in WNGER, in general) could be to consider using staff members with a high success rate of obtaining external funding as mentors for those sections with lower success. Such frontrunners are strategically important in every institution in improving the conditions for all sections and centres and success in receiving external funding with continuity. Normally, this also strengthens the feasibility of the PhD candidates’ projects since PhD candidates are one part of an expansive research community.

In addition, it is harder for the small institutions in WNGER II to pass through the proverbial eye of the needle in the NRC, EU, and so forth when they are applying for funding and competing with very large universities and research institutes with many researchers, good infrastructure, and big research projects. A certain “Matthew effect” (Merton, 1968) is visible, and, in addition, there are far fewer funding announcements from the NRC within education than in the health sciences, STEM, and so forth. Given this situation, small university

colleges can either wait and hope for better application skills and funding opportunities in future, or they can—and should—position themselves strategically in relation to the current reality. For example, one of the reasons that WNGER II has a strong focus on transferable skills, such as literature reviews, is that examining the current state of knowledge is research on research, which is a very important methodological craft to master for PhD candidates, supervisors, and other permanent staff. It is also low-cost research that does not require large research funding [Bidrags- og oppdragsfinansiert aktivitet (BOA)] but can be realistically carried out at the smaller institutions within WNGER II. To build up a workforce at the small institutions in WNGER II, which has a good competence in literature reviews, such as scoping reviews, rapid reviews, meta-analysis, meta-synthesis, systematic reviews, and so forth, could be a good additional strategy in the years to come to address the problematic situation of competing with very large universities and research institutes, both nationally and internationally, for research funding. There are several examples of this happening in recent years, probably because of institutions’ own strategies, in combination with a strong focus on literature review courses in WNGER II (since the pilot phase in 2016).

Another measure that can be taken to avoid large differences between the sections within the WNGER II institutions is to implement a long-lasting plan for employees’ professional development at the PhD level—especially connected to PhD recruitment, career development, and supervision. Moreover, the WNGER II institutions might consider whether a closer collaboration between different sections/institutes within and among themselves would bring benefits when applying for funding. For instance, collaboration could both improve the multidisciplinary approaches of the applications and simultaneously help all sections/institutes to improve their quality of research planning and grant application.

Furthermore, some PhD candidates in the WNGER II institutions have external PhD funding. These include employees from other university colleges and health institutions, NCR-funded PhD candidates, and so on. This situation appears to have made several important contributions to the WNGER II institutions: a larger PhD community, more employees involved in PhD supervision, an increased publication rate, more collaboration/networks, more doctoral disputations, and increased reward funding from completed PhDs<sup>4</sup>.

In addition, and, most importantly, external PhD candidates are normally enrolled in another institution’s PhD programme because of their research topic. However, in times of tight competition over research funding, this practise has a financial side effect. One might say that, in Norway, it is, to a certain degree, beneficial for a PhD institution to have external fellows, such as PhD candidates, who have their daily workplace elsewhere than where they are enrolled in the PhD programme.

<sup>4</sup>In 2020, each PhD programme received 389,000 Nkr. per disputation. If there are external candidates, the PhD programme institution received 312,000 and the employer’s institution 77,000 per disputation. In addition, there are expenses attached to such external candidates’ education, supervision and disputations, which the PhD programme institution covers.

<sup>3</sup>This is 12 PhD courses developed by the host institution and one developed by a partner institution in collaboration with the host institution.

In 2020, the reward funding from the Ministry of Education per doctoral disputation was ~389,000 Nkr (in addition to reward funds per PhD publication in an article-based thesis). This sum is divided between the institution where the PhD candidate is employed and that where he or she is enrolled in a PhD programme. It is, therefore, reasonable to say that, since these external PhD candidates generate important networks and competence across the PhD institutions in WNGER II and have supervisors across the institutions, reward funding from disputations and publications can also make a significant financial contribution to each institution's research infrastructure. Across the six PhD programmes in WNGER II, it appears that the number of external PhD candidates is quite similar, which indicates that some of the same possibilities exist for each institution in this regard.

### Completion Time, Completion Rate, and Employability

In Norway, there has been a significant increase in the number of PhD candidates, from 4,000 in 2002 to 10,000 in 2016 (Reymert et al., 2017), and the number is still increasing. Moreover, Sarpebakken (2019) revealed that, from 1980 to 2018, the gender differences at the PhD level decreased greatly, while, during the period 2015–2018, the number of men and women completing their PhD gradually equalised in Norway. The Direktoratet for Høyere Utdanning og Kompetanse (HK-Dir) (2021c) and Sarpebakken and Steine (2021) found that, in 2019 and 2020, an equal number of men and women completed a PhD, which is a positive development.

In light of this increased number of doctoral candidates, one can ask whether there are jobs for all recipients, which is one of the reasons that employability and the relevance of a doctoral education have become important parts of national PhD policies in recent years. The preliminary indications seem to be that, within the educational sciences, there are very good job opportunities, and the majority find employment within academia. However, it is important to monitor employability issues at the PhD level in the years to come and attempt to more systematically map where the PhD candidates in the WNGER II consortium obtain working opportunities after completing their PhD.

At the same time, it is reasonable to ask whether the increasing number of PhD candidates in the PhD programmes, both in Norway, in general, and in WNGER II, specifically, is necessary, since it is good for PhD candidates to belong to a sustainable PhD programme of a certain size. At the same time, this increasing number requires even more supervisors (with PhDs), and it is important to be aware that this quantity can, sometimes, be at the expense of the quality of doctoral education. This tendency to increase numbers taking PhDs has to be considered alongside the ability of the PhD programmes in WNGER II to handle an increasing number of PhD candidates, since this requires more PhD supervisors.

Student throughput/completion time and the completion rate at the PhD level are important in relation to a number of factors and give a clear indication of the stability, sustainability, and

continuity of a programme. The Ministry of Education states that “the institution must document that, on average, it has graduated at least five PhD students in the doctoral programme or equivalent fellowship programme per year over a 3-year period. The PhD programme must have taken, on average, at least 15 fellows over a period of 5 years” (Kunnskapsdepartementet, 2018, p. 3).

When examining the average completion time/throughput for the six institutions with PhD programmes in WNGER II, one has to be aware that some of these programmes are quite new, with few candidates to date. However, a general tendency is that the one state scientific university college and the three universities in WNGER II have the lowest completion time/throughput (3.5–4.4 years), while the others have more than 6 years. The same variation can be seen regarding how many of those admitted to the PhD programme 6 years earlier had graduated between 2011 and 2018 amongst WNGER II institutions [Kunnskapsdepartementet (KD), 2016]. Even if the national average completion rate is just over 65%, it appears that the six WNGER II institutions (in general) need to examine how to position themselves to generate a better student throughput and a completion rate. If the WNGER II institutions wish to decrease their average completion time, the possibility of a 4-year contract with a 25% working obligation could be abandoned. However, doing so is not recommended, since teaching and other working opportunities can be considered a valuable part of PhD training. Moreover, a very short PhD completion time is not necessarily a value in itself from a broader employability perspective.

### The Academic Community, Publication Patterns, and External Funding

*The National Regulations for Quality Assurance and Quality Development in Higher Education § 3-3, “Accreditation of doctoral studies,”* (Kunnskapsdepartementet, 2018, p. 2) state:

The doctoral degree programme must have a professional environment with high competence in education and research. The academic community should be able to demonstrate documented research results, including publication, at a high international level, and results from cooperation with other academic communities nationally and internationally<sup>5</sup>

In 2016, the host institution of WNGER II was examined by NOKUT for study quality in doctoral education; it found many strengths and some potential for improvement within some areas. In 2019–2020, NOKUT carried out two evaluations of study quality within two partner institutions within WNGER II. This kind of external monitoring is a part of the national quality assurance of the study quality of doctoral education to examine whether coherence exists amongst the arenas of formulation, transformation, and realisation. Normally, there is some room for improvement in such evaluations, and the PhD programmes can use the evaluation as a constructive tool to improve the study quality.

<sup>5</sup>[https://lovdata.no/dokument/SF/forskrift/2010-02-01-96#KAPITTEL\\_3](https://lovdata.no/dokument/SF/forskrift/2010-02-01-96#KAPITTEL_3)



Concerning publishing patterns in WNGER II, four of the seven WNGER II institutions have between 0.5 and 0.9 publication points per employee, one has 1. point, one has 1.4, and one has 1.6 [Direktoratet for Høyere Utdanning og Kompetanse (HK-Dir), 2020b, 2021b]. A variation can be seen here amongst the WNGER II institutions, and, even if three institutions publish very well compared to other universities, state university colleges, and university colleges in Norway, there is room for improvement in this area.

Another publication-related development whose contours we can see in WNGER II is that a high number of PhD candidates and article-based theses seem to increasingly generate a substantial number of publications/publication points for the PhD institutions in WNGER II. For example, at the host institution in WNGER II, we found that 30% of publications were single- or co-authored by PhD candidates [University of Bergen (UiB), 2020]. This number has been stable since 2011 and shows that the high number of PhD candidates writing article-based theses is also an important factor in the total publication rate at the universities and university colleges of WNGER II. Therefore, it seems to be important that the WNGER II institutions examine such issues and that PhD candidates also contribute to developing a research culture amongst the staff and employees there. Doing so can contribute to the production of even more publications if an even higher proportion of the staff engaged more in publishing at the WNGER II institutions as co-authors (a supervisor or a colleague) with PhD candidates.

International publication patterns at WNGER II institutions are also important to be aware of the new calculation of publication points, which gives extra credits to international co-publications in the DBH system in Norway. It is also significant that such publications normally generate more sustainable collaborative relations internationally.

In addition, we can see a tendency amongst WNGER II institutions toward gradually increasing the percentage of publications in (DBH approved) scientific journals (and less in grey literature, such as anthologies/books, reports, etc.). This is especially important because all PhD candidates with article-based theses must publish in scientific journals, and the staff (and supervisors) attached to PhD programmes are role models for such publication patterns and need, therefore, to be experienced with this scientific genre to have trustworthiness and credibility amongst the PhD candidates (since almost all of them are writing article-based theses). At the same time, the majority of publications in WNGER, in general, are still on Level 1 (with quite a few on Level 2), and this is an area that needs improvement.

However, the publication rate and patterns vary, especially between the three universities in WNGER II and the other four institutions in the consortium. This variation is natural when we look at the history and traditions of these institutions. Although such diversity may partly demonstrate the excellent scientific quality of some sections, institutes, research groups, and so forth in WNGER II, publishing patterns and journal quality (Levels 1 and 2) amongst often quite different scientific fields should always be compared with great caution. Nevertheless, publication patterns stand out as one of several research parameters that

directly or indirectly say something about the sustainability of the PhD programmes at the WNGER II institutions since the article-based thesis has become so prominent.

Another important part of research in higher education is to succeed with research applications to the NRC, EU, and so forth. The Ministry of Education's annual report of 2019 mentions that BOA<sup>6</sup> revenues per professional human year vary considerably amongst institutions nationally, and we can observe the same tendency within WNGER II institutions [Direktoratet for Høyere Utdanning og Kompetanse (HK-Dir), 2020a]. This is also an important indicator of the institutions' ability to succeed with their research strategy, especially given that obtaining more NRC-funded PhD candidates is very valuable for the PhD programme institutions in WNGER II.

## Recruitment, Admission Process, and Article-Based Theses

In the sections below, I examine more thoroughly the question of recruitment of PhD candidates, since this is a backdrop for several other important indicators (e.g., completion time and the rate). PhD applicants must document their formal education and publications in addition to their master's theses and a ten-page project description. These procedures are strongly connected to the evaluation carried out by the scientific committees that evaluate the quality of the candidates, in general, and of the project description, in particular.

For PhD positions advertised by WNGER II institutions, the process normally involves a letter from the expert committees, who submit a list ranking the candidates who have applied to the faculty. The highest-ranked candidates are then invited to interviews for the PhD positions, and, based on the outcomes, a final ranking list is sent from the institute leader to the Faculty Board, which makes the final decision on employment. The PhD programme leaders then consider the candidate(s) for admission to the programmes.

Throughout this admission process, WNGER II institutions aim to ensure that they recruit qualified and prepared candidates. There are many gatekeepers along this route to recruitment, and it is especially positive and reassuring that WNGER II institutions have set up a separate committee to assess each applicant, as it indicates that the scientific committees assess each applicant thoroughly.

However, even if the chosen candidates represent the best of the applicants, it is possible that WNGER II institutions can do more to prepare such candidates concerning PhD expectations. In light of a general debate in the Nordic countries regarding how to increase student throughput and raise the completion rate at the PhD level, WNGER II institutions should consider carrying out more in-depth selection interviews, not only to select candidates but also—and especially—to inform them about, and cheque their awareness of, what taking a PhD requires; in many ways, it is like an academic marathon, with a lot of hard work, uncertainties, and contextual stressors; and patience and perseverance are required traits. WNGER II institutions could

<sup>6</sup>BOA: Bidrags-og oppdragsfinansiert aktivitet (Contribution and mission-funded activity).

also consider restricting external, time-consuming work activities during the PhD scholarship period (to avoid delays because of such circumstances, which are very often amongst the main reasons for longer completion times and lower completion rates internationally; Peelo, 2011).

The national regulations state that “the final plan for doctoral education must be approved and agreed at least 3 months after accession” [Universitets-og høyskolerådet (UHR), 2018, p. 3]. This period is connected, in particular, to the often considerable time required for ethical approval from The Norwegian Social Science Data Services (NSD) and Regional Ethical Committees (REK); thus, only cosmetic adjustments, rather than an extensive revision of the project description, should be made during these 3 months. However, it appears that too many PhD candidates in WNGER II use this opportunity to develop their project description further. Their intentions in doing so might be good, but it adds to the problem of completion time in WNGER II, where PhD candidates too often seem to use 8–10% (3 months, full-time) of their programmes (3 years) to improve their project descriptions. Within the highest-ranked universities in Norway, it appears to be taken for granted that the project description is complete when a PhD scholarship is received. Therefore, the problem of using valuable time from the scholarship period on the project description is avoided to a large extent. However, whilst some PhD candidates have predefined projects (a part of a larger research project) on which they can immediately embark, starting on the writing of articles from the very 1st week, others have to start from scratch and often spend too much time deciding what to do and how. This span exists within the same PhD programme (and, indeed, within the WNGER II consortium), and some PhD candidates say it is unfair since they all, ultimately, must produce the same number of articles. The conditions for PhD candidates are sometimes quite different regarding this issue, and there seems to be a need in the PhD programmes for greater awareness of how readiness to start work immediately can influence both completion time and the completion rate amongst such candidates in WNGER II.

Another challenge in WNGER II institutions is that some PhD programmes require three publications for a PhD thesis, whilst others require four (or the requirement is formulated more vaguely or too generally). This variation might create uncertainty amongst PhD candidates as well as different tacit standards of what is considered good enough. This situation also illustrates the need for some kind of transparent guidelines for article-based theses (as such guidelines currently vary) to avoid confusing candidates and creating unequal conditions. However, one has to be aware that guidelines that are too strict can give little autonomy but high transparency, whilst having no guidelines gives high autonomy and low transparency. Therefore, a middle-way model appears the best solution.

## Frame Factors for Supervisors

Doctoral candidates in WNGER II institutions have the opportunity to receive feedback and small-scale supervision through doctoral courses, annual reports, mid-term evaluation, research schools, research groups, PhD fellow groups, conferences, reviewers in scientific journals, and so forth, all

of which are important support structures and scaffolding. Nevertheless, it is the supervisors who have the main responsibility for the doctoral thesis and the candidate's overall guidance. Institutional leaders, in contrast, have the employer's responsibility to ensure the supervision is in line with all PhD regulations, both nationally and institutionally. At the same time, it is an institutional responsibility that the supervisors have working hours enshrined in their working plans for their supervision obligations and that they are given the opportunity for professional development to ensure the quality of the pedagogy of doctoral supervision. The evaluation of The First Annual Supervision Seminar in WNGER II in 2019 revealed that it varies much across WNGER II institutions regarding working hours (from 0 to 80 h) enshrined in their working plans per semester as main supervisor per PhD candidate, raising the question of whether doctoral supervision is mainly connected to research, education or both. As we can see, these different answers are given in different WNGER II institutions.

Given the large workload and responsibility of doctoral supervision, a higher number of working hours could be allocated, particularly to the teaching part of the supervisors' working plans, than is current practise. Educational leadership and supervisors in WNGER II should keep in mind that “if research is seen as more important than teaching and supervision is the outcome of success in one's research identity, then there can be resistance to seeing supervision as a form of teaching” (Peelo, 2011, p. 222–223). The latest white paper on higher education in Norway [Kunnskapsdepartementet (KD), 2017] is quite clear about such issues and states that teaching (including supervision) at universities and university colleges should be given higher status in coming years. Such policy statements have implications for higher education institutions, including WNGER II, in terms of how supervision is perceived amongst the educational leadership, supervisors, and PhD candidates.

Such conditions are similar all over Norway and might be amongst the reasons that, when the NRC evaluated PhD education in Norway in 2012, it found that “supervision remains a crucial issue. Even though there have been positive developments over the last decade, the quality and access to supervision for PhD candidates are not satisfactory for a certain number of PhD candidates. Efforts to increase the professional development and training of supervisors are recommended” [Norwegian Research Council (NRC), 2012, p. 10]. However, a more recent Norwegian report, “Doktorgrads kandidater i Norge,” has revealed that a clear majority of PhD candidates were quite satisfied with their supervision, whilst a minority remained dissatisfied (Reymert et al., 2017).

What are the conditions for doctoral supervision in WNGER II? A general impression from WNGER II to date is that the PhD candidates are, in general, satisfied with their supervision, but that some frame factors need to be examined in light of the fact that the majority of the supervisors in WNGER II took their own doctoral degrees 15–30 years ago, when the monograph dominated the educational sciences. Therefore, it is important to map whether supervisors need professional development within the article-based thesis genre, which has recently become

very common in doctoral education, such as transferable skills (e.g., literature review), academic writing (e.g., writing the synopsis/extended abstract), and so forth (Krumsvik, 2017).

Section 7 of the *National Guidelines for the Degree Philosophiae Doctor (PhD)* [Universitets-og høyskolerådet (UHR), 2018] states that doctoral candidates are entitled to supervision and that it is normal for a candidate to have two competent supervisors. The supervisors must ensure that there is regular contact, follow up on the candidates' professional development, provide systematic progress reporting, and make sure that the candidates become involved in an active research environment in the workplace. These elements appear to be in place in all WNGER II institutions.

WNGER II institutions need to have enough PhD candidates enrolled to keep the accreditation of their PhD programmes and show that such programmes are sustainable over time. However, the number of enrolled candidates must match the size and capacity of the institution, which might generate both pros and cons. Supervision is very often described by supervisors in WNGER II as the most enriching part of academic life. However, actively recruiting young associate professors could be one measure to involve more members of staff in supervision and prevent the workload of others becoming too heavy. Such new recruits could serve as co-supervisors in the beginning and during professional development (e.g., a young research leaders' programme<sup>7</sup>) before they gradually take on the main supervisor's role after some years. This recruitment policy would also avoid discrepancy between policy documents at the national level and the PhD regulations at WNGER II institutions, on the one hand, and the practise in WNGER II (where a few candidates still only have one supervisor), on the other.

Collaboration across the WNGER II institutions concerning PhD supervision seems also to be a natural measure, and one which is already a reality for an increasing number of PhD candidates there. It is important to underline that having one supervisor can sometimes be an excellent solution and function very well. In the field dialogue undertaken with the PhD candidates, however, they mentioned having various experiences and levels of awareness of this topic during their PhD courses at WNGER II. Several WNGER II candidates expressed that, if they only had one supervisor, they felt more vulnerable in case the supervisor went on sabbatical, sick leave, paternity/maternity leave, and so on. Internationally, according to Peelo, a one-to-one supervision model can give unexpected side effects: "the worst scenarios when they go wrong are those where students and supervisors have been trapped in a tight, highly personalised apprenticeship, a one-to-one relationship that has gone wrong" (2011, p. 1,233–1,234). It is, therefore, important that the supervisor works according to the guidelines and reports supervisor conditions that are not working. Doing so seems to be especially important since, both nationally and internationally,

there is now stronger focus on the psychosocial relationships between the candidate and the supervisor (s).

## Annual Progress Report and Supervision

The *Recommended Guidelines for the Doctor of Philosophy Degree (PhD)* from the Board of the Norwegian Association of Higher Education Institutions [Universitets-og høyskolerådet (UHR), 2018] state that:

The institution's system for the quality assurance of doctoral education must include measures to uncover insufficient progress on the doctoral thesis and coursework, inadequacies in supervision, and routines for handling any such deficiencies that might arise. This system will normally include the submission of annual, individual reports by the PhD candidate and the academic supervisor, and be designed to avoid dual reporting (p. 6).

First of all, it is quite common in WNGER II that PhD candidate(s) and supervisor(s) submit separate annual progress reports, which makes it easier for both parties to report ups and downs in the supervision relationship. Second, because the annual report scheme might consist of parts that deal with privacy concerns (e.g., sick leave), which are assessed by different leaders, council members, and so on, the scheme should be revised in order to ensure such privacy concerns are met (at some of the institutions). Third, annual reports must be seen as part of the formative assessment process in the PhD period, and it is quite common today in other PhD programmes that these are complemented by mid-term evaluation, a master class, and the 90% seminar in the final part of the PhD period when the candidate is close to completion and disputation.

## Midterm Evaluation and Supervision

The *Recommended Guidelines for the Doctor of Philosophy Degree (PhD)* [Universitets-og høyskolerådet (UHR), 2018] state:

A mid-term evaluation of the research project should normally be carried out in the third or fourth semester. The candidate must present his/her work and will be evaluated by a group of at least two persons appointed by the institution. The evaluation group must give its opinion of the academic status and progress of the research project and provide feedback to the candidate, supervisor, and institution. If the evaluation group finds major weaknesses in the research project, measures to rectify the situation must be implemented (p. 7).

The quality assurance system at the WNGER II institutions has implemented this midterm evaluation. According to the analysis of the PhD documents at the WNGER II institutions, there are clear indications that the mid-term evaluation is compulsory for all PhD candidates there. However, there appears to be room for improvement when it comes to the transparency of the guidelines and requirements for such evaluation at all WNGER II institutions, since this is the most important formative assessment PhD candidates have during their scholarship.

In terms of the quality development of the supervisor's competence in the PhD programme, both research competence

<sup>7</sup>Several universities in Norway have established such programmes, especially for young associate professors, where at least 50% of the places every year are earmarked for female employees. See, for example: <http://www.uib.no/en/psyfa/96674/program-young-research-leaders>.

and opportunities for professional development for supervisors at the WNGER II institutions must be examined. There is reason to conclude that supervisors at WNGER II institutions have a good research competence, since this is the main criterion for being recruited to a permanent position in the WNGER II institutions (and elsewhere in higher education in Norway). Research competence is a good starting point since doctoral supervision deals mainly with research (conducting, analysing, and reporting a study). Within some subject fields, we know that PhD candidates work together on a daily basis in the laboratory, where supervision goes hand in hand with research activities (inspired by bedside supervision and telling and showing within medicine, etc.). However, not many PhD candidates within the educational sciences seem to work together with their supervisors on a daily basis at the WNGER II institutions (as is seen in other universities); therefore, it is important to raise awareness around the pedagogy of supervision in light of the silent revolution taking place within doctoral education internationally. Raising awareness means reflecting upon how new transferable skills, new models of supervision, digitalisation, formative assessment (annual reports/mid-term evaluation/master class), and so forth influence the roles of supervisors and PhD candidates in doctoral supervision.

Halse and Malfroy (2009) found that “the pedagogy of doctoral supervision has been described as poorly articulated and under-theorised” (p. 80), partly because this area has under-communicated that the “PhD landscape” has changed dramatically the last 10–15 years, whilst the supervision traditions may have remained too stable (often relying on tacit knowledge and master–novice models). This silent revolution calls for updated awareness around current doctoral supervision with, amongst other improvements, a number of new requirements for those carrying out the supervisor role. Moreover, awareness is also necessary amongst PhD candidates of their obligations in the supervision relationship and a certain role understanding of what it means to be temporarily employed as a PhD candidate, on a full salary, for 3–4 years as part of the university staff (rather than being a student *per se*).

What are the conditions for professional development within PhD supervision in WNGER II? At present, it appears that there are some regular in-service courses for supervisors at WNGER II institutions. Participation is increasing, but these courses have only been arranged a very few times, and it is rather unclear what their content consists of. However, during the pilot phase and the first phase of WNGER II (2016–2020), the research school arranged four supervision courses for WNGER II doctoral supervisors (the fifth is planned for 2022). These courses have received good feedback, but it is important that the seven institutions in WNGER II have a stronger focus on the ongoing daily professional development of supervisors’ competence, since this is, first and foremost, the responsibility of each institution. Some of the WNGER II institutions have some written documentation on how they will assure supervision in practise, ensure that there are two supervisors per candidate, recruit young supervisors, assess new supervisors, and so forth, but it appears that there is still unrealised potential. A preliminary survey carried out by the

University Council of Norway [Universitets-og høyskolerådet (UHR), 2018] showed that the majority of institutions in Norway had some minor supervision seminars/courses for PhD supervisors; for one university, attending such courses was an obligatory requirement for permanent employees, and the host university of WNGER II was the only institution with five ECTS in PhD supervision. A more systematic sharing of knowledge on a daily basis between supervisors is recommended, especially from senior supervisors to young and less-experienced ones, which could be done systematically and under the direction of institute and PhD programme leaders. With 97 PhD candidates enrolled and 48 supervisors involved in WNGER II, this seems to be a necessary measure to be able to handle the large number of PhD candidates currently in the institutions and those expected in the years to come.

In terms of professional development for supervisors in WNGER II, the four supervision seminars arranged so far have been important and valuable, but they do not appear to be a sufficient part of a systematic quality assurance and development of the supervisor role at each WNGER II institution.

Another aspect of doctoral education in WNGER II (and Norway, in general) is that there do not appear to be any specific competence requirements to become a main supervisor (other than having an associate professorship and having published independent scientific work in approved publishing channels after completing one’s doctoral thesis). Awareness of the importance of the pedagogy of supervision has been underlined recently by the accreditation procedures of PhD programmes (NOKUT, 2020) and in several policy documents published by the Ministry of Education.

In WNGER II, there seems to be room for improvement regarding this issue, and it is important that the institutions ensure the quality of each supervisor’s professional competence through obligatory supervision courses and systematic in-service training. First of all, this is important for the supervisors and PhD candidates and the quality of the pedagogy of doctoral supervision. Secondly, an obligatory course would be an essential part of promoting applications for associate professors, whether for the traditional professorship track or the new teaching excellence track implemented in the new white paper for higher education [Kunnskapsdepartementet (KD), 2017].

## Frame Factors and Feasibility for PhD Candidates

If we consider what the strong and weak aspects of WNGER II’s PhD programmes are in light of the National Qualifications Framework for Higher Education (NOKUT, 2014), our impression is that the highest quality work is largely seen at the PhD candidate (micro) level and less at the PhD programme (meso) level. NOKUT clearly states that the quality assurance of PhD education must be connected to the programme level and focus on the PhD programme as a whole, as employability preparation and as education. In order to achieve this, WNGER II institutions should be encouraged to develop their existing routines to assess and retrieve information about their doctoral programmes, including supervision, and

evaluate such routines systematically. This process should focus strongly on employability and evaluate the relevance of the courses offered in relation to future employers outside the universities.

Taking a PhD implies hard work for the candidates, and it is quite common in Norway to have a 25% work allocation (mainly teaching) as part of the PhD programme. The PhD candidate will then have 4 years to complete their doctoral theses. This time frame might have clear advantages compared to a 3-year PhD programme without a work allocation: first, teaching and other academic duties may clearly be seen as a part of academic training for a PhD candidate; second, 4 years give more flexibility with the work plan, as well as the possibility to use data gathered over longer interventions. However, a recent study from Norway has revealed that four out of ten doctoral candidates believe that they carry out more duties than those set out in their work plans (Reymert et al., 2017), which may explain why some PhD candidates struggle to complete their doctoral theses on time. This is, therefore, an area that needs awareness from the educational leadership at the PhD institutions.

It appears that a majority of PhD candidates in WNGER II have an annual work allocation of 25% (and thereby a 4-year PhD period), while a smaller number have 3 years full time with no work allocation. There is some information about work allocation in the institutions' annual report scheme, but it is hard to find additional written documentation on how such work is perceived by the PhD candidates over time. How large is the actual workload for the PhD candidates in WNGER II? How is the allocation of work planned in relation to the candidates' wishes and other obligations (e.g., field work, data collection, etc.)? How is it planned together with supervisors and employers? How is such a work allocation credited for the PhD candidate for future career development? These issues could be more transparent than they currently are in the WNGER II institutions and considered in relation to other obligatory requirements for PhD candidates. A 25% work allocation over 4 years is a total of 1 whole year out of the 4-year PhD period. In addition, the compulsory educational part consists of 30–40 ECTS, thus a workload of 0.5–0.7 years<sup>8</sup>. Hence, the PhD candidates have approximately 2.5 years left to present papers at international conferences, participate in research groups/graduate research schools, carry out their data collection and data analysis, and publish three scientific articles and write the synopsis (an extended summary/*kappen*). Exchange/study abroad during the time left is possible, but can be hard to carry out in practise. This situation is, in many ways, well-intended, but it seems to under-communicate that it is the doctoral thesis that is the PhD candidate's main assignment in a doctorate and that will give him or her a doctoral degree (or not). This is important to keep in mind in the WNGER II consortium in the years to come, since the PhD has become highly regulated and time intensive over the last 10 years, and the context has greatly changed within the educational sciences. The old doctoral degree with monographs, which

was the norm several decades ago, often took up 10 years to complete, and the doctoral education context was quite different from today.

For institutionally funded PhD fellows, there are often 4 years of PhD contracts with 25% duty work obligations within the educational sciences. A 3-year PhD fellowship is more common in the health sciences and is also related to externally funded positions (through BOA, e.g., NRC). The effective study time (180 ECTS) is similar in both contracts. There are pros and cons with both types of contracts. However, (1) 4 years gives better possibilities to plan and execute a totally new research project, if this is what is needed to obtain all the data for the thesis. In particular, carrying out interventions and publishing 3–4 articles take time, and it might thus be difficult to complete everything within 3 years; (2) PhD training should not be only research but also training for an academic career. Teaching is one of the most important work assignments, in addition to scientific research. It is imperative that high-level academic teaching is connected to scientific research and is based on the newest research data. Combining teaching with PhD research gives a unique possibility to obtain good academic training.

The given proportion of time for teaching and other non-research work is quite high in Norway, at least compared to some other Nordic countries (e.g., 5% in Finland and 20% in Sweden, but, there, it is an offer, not a duty). However, the allocated time can enable excellent training. Unfortunately, it is not always easy to restrict the time to 25% if there are pressures from institute leaders, senior professors, supervisors, and so on to teach more. The head of the department has a considerable responsibility for ensuring the work obligation time slot is kept as planned. Moreover, it should be noted that the time taken to prepare for teaching should be included, as most PhD candidates are still relatively inexperienced in teaching, and the time they need to prepare their lectures and so on is much longer than for more-experienced teachers.

WNGER II institutions have a low-to-high completion time/throughput and a low-to-average completion rate amongst PhD candidates and might consider how they can decrease the workload for PhD candidates through, for example, requiring three (not four) scientific articles in an article-based thesis. They could also consider reducing the obligatory courses in the educational part of the PhD degree from 40 to 30 ECTS to reduce the obligatory workload for candidates. This would make it easier for candidates to participate in future research school courses, in addition to those of the PhD programmes.

When it comes to the educational (training) part of the PhD, it is important that this is in line with the requirements in the Norwegian National Qualification Framework (NOKUT, 2014). In this regard, it is recommended that the training part consists of 30–40 ECTS, with ~50% being mandatory courses in the PhD programme in which the candidate is enrolled and 50% being elective courses that can be taken externally. The current course portfolio (*opplæringsdelen*) of 30–40 ECTS in the WNGER II institutions seems to be perceived as valuable for the doctoral candidates. However, it is important that the PhD programme and research schools are complementary so

<sup>8</sup>In Norway, 60 ECTS is one year's workload in higher education.

the candidates do not experience double obligatory requirements (the double obligatory effect) in the PhD programme and the research school.

An examination of the size of the courses in light of workload per ECTS, and whether such size aligns with national and institutional policies, is also recommended. It is also important to examine whether some courses that are dimensioned at 10–15 ECTS should be reduced in volume (e.g., 5–8 ECTS), which will facilitate PhD exchange and international PhD candidates staying in Norway for a period of time and participating in courses. The additional courses that WNGER II offers (1–5 ECTS), with a more specific focus on transferable skills, could be implemented more systematically in the PhD programmes. Doing so would create a win-win effect: what the courses the WNGER II institutions cannot provide (because of competence, capacity, size, and financial issues) could be offered through more binding and long-lasting collaborations with graduate schools of research, such as WNGER II (or other research schools). In this way, research schools would become more integrated into doctoral education, which has been a challenge in previous research schools within the educational sciences in Norway (Ludvigsen and Ulfnes, 2013).

Article-based theses dominate in WNGER II institutions, but what are the guidelines for such theses? And how are they assessed? Although both autonomy and diversity can be positive at times, predictability and transparency regarding guidelines, requirements, and assessment criteria for the candidates are important and concern both formative and summative assessments. Having examined the guidelines and requirements for doctoral theses at WNGER II institutions, it is reasonable to say that these are quite clear at some institutions, but too general and partly ambiguous at others. These guidelines should be more transparent for PhD candidates than they currently are, and there is significant room for improvement in some of the institutions. One should keep in mind that doctoral candidates write monograph theses in both their bachelor and master programmes, but have no experience of article-based theses. Hence, thorough and transparent information about this rather new genre is required within the WNGER II subject disciplines. In addition, the guidelines for the synopsis (extended abstract) are inadequate and should be more concrete and transparent in some of the institutions. On this basis, there should be more transparent common guidelines, requirements, and assessment criteria across subject fields in the WNGER II institutions when it comes to article-based dissertations.

The requirements for the number of articles in a doctoral thesis are also (as previously mentioned) sometimes ambitious (or partly ambiguous), given the thesis is to be carried out within 3 years. It appears recommendable to consider a reduction to three articles for those programmes that operate with four articles or more. The quality of a PhD thesis is rarely correlated with the number of publications. Sometimes, three good publications may form a more coherent thesis than four publications. Moreover, a requirement for too many original publications may lead to a study being sliced into two

smaller papers instead of one larger (and, presumably, more important) paper.

## Internationalisation, Networking, and Collaborations

Our general impression is that PhD candidates in WNGER II are encouraged to participate in international research arenas, which is an especially good way of establishing international collaboration and networks, both during their PhD period and afterwards. However, experiences from Norway, in general, show that PhD candidates too often meet administrative obstacles when going abroad (e.g., the process of applying for a visa, securing housing, finding kindergartens/schools if they have children, everyday logistics, and other practical issues that take too much time). Because the time frame for taking a PhD in Norway is quite tight (as already mentioned), the period abroad must be well prepared, well-planned, and academically relevant, and the PhD candidate must be connected to existing research networks with which the supervisors and research groups have established collaboration. For example, some candidates in WNGER II have had foreign stays of between 1 and 6 months, and a majority have attended conferences and/or seminars abroad (often several times).

It is important that WNGER II PhD programmes facilitate international networking and participation in international research arenas. However, there seems to be some variation among the six institutions concerning this issue. Therefore, WNGER II should encourage the institutions to evaluate the conditions for PhD candidates to take part in international networks. There should be equal opportunities and encouragement for PhD candidates in the same programme to experience internationalisation and study abroad.

As stated earlier, PhD candidates at WNGER II are a rather diverse group. Many are situated along the west coast of Norway at their own local campuses, a long distance from the PhD programme/faculty in which they are enrolled. Others may have an employer other than the PhD programme institution in which they are enrolled, a situation which appears to cause some challenges for the PhD programme institutions in terms of ensuring that remote or external PhD candidates are integrated into sound professional environments at their local campuses or institutions.

## Research Groups, Research Schools, and the Research Community

All the WNGER II institutions have an annual employee conversation (*Medarbeidersamtale*) with their institute leaders at which the psychosocial aspects of doctoral education are discussed. Whilst the WNGER II candidates seem to be well-included in the environment of the different sections, there appears to be some variation regarding research groups and the research environment. The *Recommended Guidelines for the Doctor of Philosophy Degree (PhD)* [Universitets-og høyskolerådet (UHR), 2018] state that “the agreement regulates

the rights and obligations of the parties during the period of admission and is intended to ensure that the candidate participates on a regular basis in an active research group and that he/she is able to complete the training within the stipulated time period” (p. 4). This is one of the reasons that institutions in Norway have residence obligations for PhD candidates and expect them to be physically present at their universities on a daily basis, as this makes it easier for them to be included in the working environment with other academic staff.

Research groups are especially important regarding this issue, for both PhD candidates [Norwegian Research Council (NRC), 2012] and supervisors. Research groups can function as a research community and collective scaffolding for PhD candidates. WNGER II institutions have a number of research groups, but it is not clear how PhD candidates become members of these groups, how often they meet, what strategies the research groups have, how often they can present/discuss their own research in these groups, and so on. Belonging to a research group is of great importance for a PhD candidate for psychosocial reasons, such as being included as a member of a research community, as well as for the quality of the scientific work produced. It is also essential for PhD candidates to have the opportunity to develop an identity within that community. It is important to ensure that remote or external PhD candidates belong to a research group at their employers' institutions and have regular contact with such a research community. The WNGER II institutions could consider making it obligatory in the PhD contract for the PhD candidate and supervisors to indicate which or whose research group the PhD candidate will be attached to.

In the white paper, St. 18, *Concentration for Quality. Structural Reforms in the University and College Sector*, the Ministry of Education emphasises the importance of research schools:

Research schools will help raise the quality of doctoral education. An important goal is for universities and university colleges to promote recruitment and increase the proportion of candidates who complete their doctoral education. It is also a goal to shorten execution time. They will also contribute to the internationalisation of Norwegian doctoral education [Kunnskapsdepartementet (KD), 2016, p. 52].

The NRC's evaluation of research within humanities in Norway also signals the importance of focussing on improvements in doctoral education in the years to come, as was also suggested by the expert committee in the newly completed evaluation of Norwegian education research [Norwegian Research Council (NRC), 2018]. “The RCN, together with NOKUT, should carefully consider which institutions have sufficient expertise and capacity to undertake high-quality doctoral training and ensure that there are opportunities for partnership that can provide high-quality training and skills development” (p. 73).

To our knowledge, a clear majority of PhD candidates in the WNGER II institutions are attached to research schools, but it is hard to find systematic documentation at the WNGER II institutions about the PhD programmes' relationship and collaboration with, and membership of, research schools in Norway (and, potentially, abroad). It seems likely that such

relationships exist only on an individual level through word of mouth and in some research groups. However, both the national research schools, NATED and NAFOL, have formed a consortium with other universities and university colleges, and, on this macrolevel, it is easy to find documentation concerning collaboration with research schools.

What are the pros and cons of research schools? Research schools are very often based on a partnership and consortium agreement amongst several PhD programmes at different institutions. Some are regional, some are national, and some are international. They can be organised around a narrow thematic field or more interdisciplinary in nature. For example, the national research schools within education, NATED<sup>9</sup> and NAFOL,<sup>10</sup> show that participation in such schools provides access to additional research networks, consisting of many other PhD candidates and their supervisors.

It is quite common for supervisors to be affiliated to the same research school as their PhD candidates, and the candidates can, for example, take part in additional courses that the PhD programme at the WNGER II institutions cannot provide. The main activities in research schools should, therefore, be complementary to the PhD programmes in WNGER II, such as PhD courses within transferable skills, academic writing, and so on, with invited top lecturers, where candidates are encouraged to present the progress of their own research in order to receive feedback from other PhD candidates and professors.

Some research schools organise a 90% seminar for PhD candidates approaching completion, which prepares such candidates for the defence of their doctoral theses. However, the research schools should not increase the PhD candidates' workload but be an important supplement to the WNGER II institutions' own PhD programmes based on the needs of the PhD candidates. The WNGER II institutions should initiate a process whereby they consider partnerships with regional or national research schools as an integrated part of their doctoral education. Taking such a step would be principally important for the PhD candidates, but would also enable current PhD programmes to achieve a broader course portfolio (this being often quite limited at present). The workload for PhD candidates will thus be reduced, since they will be able to avoid the phenomenon of the double obligatory effect that occurs in both PhD programmes and research schools (which seems to exist as a result of too little integration of the research schools as part of the PhD programmes).

For different reasons, some PhD candidates experience taking a PhD as a solitary journey, and they want to be a part of a community. Since not all the PhD candidates at WNGER II institutions appear to be members of research groups, PhD fellow groups could be an alternative. Normally, such groups are informally organised, but, despite this, they can be quite important for the PhD candidates' psychological and social well-being and subject-related needs. Such groups could be attached to

<sup>9</sup>NATED existed between 2009 and 2015: <http://www.uv.uio.no/english/research/nated/>.

<sup>10</sup>NAFOL existed between 2009–2022: <http://nafol.net/>.

**TABLE 1** | Actionable recommendations within the WNGER II consortium (strengths and opportunities) in light of the frame factors in national policies.

Educational quality (macro-level)	Study quality (meso-level)	Teaching quality (micro-level)	Doctoral supervision	Article-based thesis	Research school (WNGER II)	Psychosocial factors
<b>Strengths and opportunities</b>	<b>Strengths and opportunities</b>	<b>Strengths and opportunities</b>	<b>Strengths and opportunities</b>	<b>Strengths and opportunities</b>	<b>Strengths and opportunities</b>	<b>Strengths and opportunities</b>
<ul style="list-style-type: none"> <li>- Meets international collaboration requirements</li> <li>- Meets exchange opportunity requirements</li> <li>- Meets 50% rule of professors</li> <li>- Meets 8 permanent 1st position requirements</li> <li>- Meets competence demand</li> <li>- Meets supervision demand (2 supervisors per candidate)</li> <li>- Continuously working to improve vulnerable parts of the PhD programme</li> <li>- Meets national accreditation demand</li> <li>- Meets national quality system demand</li> </ul>	<ul style="list-style-type: none"> <li>- Very good financial conditions for PhD candidates</li> <li>- Very good welfare leave for PhD candidates</li> <li>- Very good office facilities for PhD candidates</li> <li>- Good representativeness of PhD candidates in councils and boards</li> <li>- Good evaluation routines in the PhD programmes</li> <li>- Very good infrastructure for PhD candidates</li> <li>- Good exchange opportunities</li> <li>- Gradually increasing the number of PhD candidates</li> </ul>	<ul style="list-style-type: none"> <li>- Well-funded participation in courses</li> <li>- Good opportunities for course participation abroad</li> <li>- Awareness of PhD candidates' course needs</li> <li>- The PhD candidates are satisfied with the elective courses in research schools</li> <li>- Good teaching quality in most of the obligatory courses</li> </ul>	<ul style="list-style-type: none"> <li>- Supervisors think supervision is enriching</li> <li>- PhD candidates want supervisors to co-publish with them</li> <li>- PhD candidates want supervisors with extensive publishing experience</li> <li>- PhD candidates want supervisors with article-based thesis experience</li> </ul>	<ul style="list-style-type: none"> <li>- Increased focus on the article-based thesis genre</li> <li>- Increases the publication rate and publication competence in WNGER II institutions</li> </ul>	<ul style="list-style-type: none"> <li>- Consortium of seven institutions collaborates</li> <li>- Board, panel and international advisory board established</li> <li>- Financially sustainable</li> <li>- 13 PhD courses from host institution</li> <li>- Some courses from partner institutions</li> <li>- Annual supervision gatherings</li> <li>- Stimulates focus on literature reviews</li> </ul>	<ul style="list-style-type: none"> <li>- Generally high awareness around PhD candidates' wellbeing</li> <li>- Good inclusion of PhD candidates in the work environment</li> <li>- Good dialogue between PhD candidates and leadership</li> <li>- Very good conditions for welfare leave, etc.</li> </ul>

the PhD candidates' council at the institutions<sup>11</sup>. The aim of these groups is to create a link between PhD students, postdoctoral students, and PhD programme leaders and to promote the interests of fellows and postdoctoral students at WNGER II in education and research policy cases. It appears to be important that PhD programme leaders support initiatives to establish PhD fellow groups (pending the establishment of more formal research groups for all the PhD candidates).

## ACTIONABLE RECOMMENDATIONS

Through this policy and practise review article, I have examined WNGER II<sup>12</sup> in light of the policy documents for doctoral education. In **Tables 1, 2**, I summarise actionable recommendations in light of the frame factors in national PhD policies.

## DISCUSSION

This policy and practise review article has addressed the following research question:

<sup>11</sup> Here is an example from the host institution of WNGER II, University of Bergen: <https://psykstip.w.uib.no/>.

<sup>12</sup> See WNGER II: <https://www.uib.no/en/rs/wnger-ii>.

*What kind of frame factors seem to have been vital for the relationship between policy and practise in the WNGER II institutions from 2018 to 2020?* The study was inspired by a formative dialogue approach that examines the implementation processes of the WNGER II consortium from 2018 to 2020 by addressing frame factors attached to new national policies on PhD-level education. The formative dialogue research in the study is a process of learning principally based on document analysis (and dialogues with the PhD candidates and partner institutions). Its main intention at this stage is to develop knowledge relevant to the further development of the research school.

Seen as a whole, the article shows that the new national policies on doctoral education have changed some of the frame factors for the institutions, and the policy and practise review reveals that this has created some new challenges in PhD-level education in the arenas of formulisation, transformation, and realisation (Lindensjö and Lundgren, 2014; Linde, 2016). This situation seems to be especially visible at the national and institutional/programme levels and, partly, at the course/teaching level. The study indicates that it is, therefore, important to understand how PhD regulations at the national level impact the frame factors and play out in the WNGER II institutions. Although the long-term consequences of these national policies are not yet visible in our study, it will be important to continue examining the educational, study and teaching quality in the



**TABLE 2 |** Actionable recommendations within the WNGER II consortium (challenges) in light of the frame factors in national policies.

Educational quality (macro-level)	Study quality (meso-level)	Teaching quality (micro-level)	Doctoral supervision	Article-based thesis	Research school (WNGER II)	Psychosocial factors
<p><b>National regulations challenges:</b> <i>Need to:</i></p> <ul style="list-style-type: none"> <li>- Develop further employability aspects</li> <li>- Develop further alignment with NQF requirements</li> <li>- Map whether and why there is an insufficient NPI per human-year (too few publ.)</li> <li>- Develop further international co-publishing</li> <li>- Increase scientific publishing of articles among permanent staff</li> <li>- Develop further the necessary depth and breadth in research competence</li> <li>- Develop further the requirements for bachelor/master degrees as a preparation for the PhD-degree</li> <li>- Continuously monitor sustainability (required number of PhD candidates in programme and number of disputations)</li> <li>- Develop further strategies for BOA (external funding)</li> <li>- Develop further strategies to increase throughput</li> <li>- Develop further strategies to improve completion time</li> <li>- Map timeconsuming hurdles that cause delays for PHD candidates</li> <li>- Develop further the potential of annual reports (formative assessment)</li> <li>- Develop further the potential of mid-term evaluation (formative assessment)</li> <li>- Develop further the career development opportunities for PhD staff</li> <li>- Develop further supervisors' professional development opportunities</li> <li>- Develop further the ambitions around the green shift (e.g., remote teaching, etc.)</li> <li>- Develop further a strategy for research school collaboration</li> <li>- Develop new strategies for research on research, etc.</li> </ul>	<p><b>Institutional/PhD programme-level challenges:</b> <i>Need to:</i></p> <ul style="list-style-type: none"> <li>- Develop further strategies for transferable skills in PhD programmes</li> <li>- Develop further the implications of the new article-based thesis genre</li> <li>- Develop further strategies for sustainability in the PhD programmes</li> <li>- Develop further strategies to improve the coherence between educational, study and teaching quality</li> <li>- Map the PhD candidates' actual workload and develop strategies to prevent delays</li> <li>- Develop further a more systematic integration with research schools</li> <li>- Develop further an increased number of elective courses in the PhD programmes</li> <li>- Map whether the double obligatory effect in programmes/research schools contributes to delays</li> <li>- Map whether the duty work workload is too extensive for some PhD candidates</li> <li>- Map other hurdles that affect completion time and completion rate for PhD candidates</li> <li>- Develop further the strategies for mid-term evaluation (formative assessment)</li> <li>- Develop further the strategies for annual reporting</li> <li>- Map whether the PhD candidates are using too much time on project design/project description in the beginning</li> <li>- Develop further the PhD candidates' attachment to research groups</li> </ul>	<p><b>Course/teaching-level challenges:</b> <i>Need to:</i></p> <ul style="list-style-type: none"> <li>- Map whether it is too hard to give an extensive course portfolio in each PhD programme</li> <li>- Develop further strategies/cheques to ensure that all courses are in line with NQF (obligatory part)</li> <li>- Develop the elective course portfolio in the PhD programmes</li> <li>- Improve the information about workload per ECTS in the obligatory part</li> <li>- Map whether the educational part needs to be reduced to maximum 30 ECTS</li> <li>- Map whether all the obligatory courses have sufficient relevance/connection to the PhD thesis work for PhD candidates</li> <li>- Map whether the obligatory courses part has sufficient relevance regarding employability</li> <li>- Map whether the course portfolio has sufficient instruction courses within transferable skills</li> <li>- Map whether the course portfolio has sufficient instruction courses within digital/remote teaching (green shift)</li> <li>- Map whether the educational part has a higher workload because of the double obligatory effect in PhD programmes &amp; research schools</li> <li>- Develop further obligatory courses or systematic courses of instruction for PhD supervisors</li> <li>- Map the PhD candidates' satisfaction with supervision</li> </ul>	<p><b>Supervisors' and PhD candidates' challenges:</b> <i>Need to:</i></p> <ul style="list-style-type: none"> <li>- Increase professional development within doctoral supervision</li> <li>- Show awareness that the of hours enshrined in working plans varies among supervisors</li> <li>- Show awareness around whether supervision is attached to research or to education</li> <li>- Enable further career development to become a supervisor</li> <li>- Increase stable and sustainable efforts of in-service training for supervisors</li> <li>- Show awareness that supervision role must be distinguished from institute leader responsibilities</li> <li>- Show awareness that supervision is very important when applying for promotion</li> <li>- Develop further the institutional responsibility to facilitate career development</li> </ul>	<p><b>PhD candidates challenges:</b> <i>Need to:</i></p> <ul style="list-style-type: none"> <li>- Raise awareness around this new academic genre for PhD candidates</li> <li>- Give PhD candidates more courses in academic writing of scientific articles</li> <li>- Give PhD candidates more courses in writing the synopsis</li> <li>- Give PhD candidates more courses in literature reviews</li> <li>- Avoid ambiguous guidelines for article-based theses</li> <li>- Avoid ambiguous guidelines for the number of articles required</li> <li>- Map whether obligatory educational part is insufficient for an article-based thesis</li> <li>- Map whether workload varies too much depending on the PhD candidate's research design (individual vs. project)</li> <li>- Avoid ambiguous guidelines for publication channels (level 1 or 2; impact factor)</li> <li>- Have higher focus on completion time and completion rate</li> </ul>	<p><b>Research school challenges:</b> <i>Need to:</i></p> <ul style="list-style-type: none"> <li>- Avoid double obligatory effect for PhD candidates</li> <li>- Be more systematic in integrating PhD programmes to avoid such effect</li> <li>- Decrease geographical hurdles</li> <li>- Complement the PhD programmes</li> <li>- Develop further strategies for the WNGER II consortium</li> <li>- Develop further strategies for international collaboration</li> <li>- Develop further strategies for subject-specific course portfolios</li> <li>- Develop further strategies for external funding</li> <li>- Develop further the collaboration of the consortium of seven institutions within the administration of WNGER II</li> </ul>	<p><b>Psychosocial challenges:</b> <i>Need to:</i></p> <ul style="list-style-type: none"> <li>- Implement PhD fellow groups</li> <li>- Ensure that all PhD candidates belong to a research group</li> <li>- Ensure that all PhD candidates belong to a research school</li> <li>- Ensure that all PhD candidates have two supervisors</li> <li>- Ensure that all PhD candidates have annual dialogue meetings with their leader</li> <li>- Monitor the reasons for sick leave among PhD candidates</li> <li>- Examine the reason(s) for long completion time</li> <li>- Examine the reasons for drop-outs and insufficient completion rate</li> <li>- Monitor the wellbeing of PhD candidates</li> <li>- Be aware of signals in the annual reporting</li> </ul>

years to come to avoid a gap in PhD-level education amongst the arenas of formulation, transformation, and realisation (Lindensjö and Lundgren, 2014; Linde, 2016). In consequence, it is important that WNGER II increases its awareness around the following important areas within doctoral education in Norway today: sustainability of PhD programmes, psychosocial aspects of doctoral education and the ways assessments are conducted, quality of doctoral supervision, remote teaching as a measure for both the green shift and educational quality, cooperation across the seven WNGER institutions concerning qualifications, career development, co-publishing, doctoral committees, collaboration on research applications, and so forth. Such development work and monitoring will help each institution in WNGER II, as well as the research school as a whole, to improve over time. In addition, there seems to be a need to clarify what responsibility supervisors have and what is the responsibility for the nearest superior (Head of Department). This is important in light of that PhD's both are regulated as employee by the employers regulation, as well as the educational regulations as doctoral students.

## REFERENCES

- Baklien, B. (2004). Følgeforskning. *Sosiologi i dag* 4, 49–66.
- Creswell, J. W., and Clark, V. L. P. (2011). *Designing and Conducting Mixed Methods Research*. London: Sage Publications.
- Direktoratet for Høyere Utdanning og Kompetanse (HK-Dir) (2020b). *Database for statistikk om høyere utdanning – publiseringspoeng for 2020*. Bergen: Direktoratet for høyere utdanning og kompetanse. Available online at: [https://dbh.hkdir.no/tall-og-statistikk/statistikk-meny/publisering/statistikk-side/10.1?visningId=278andvisKode=falseandadmdebug=falseandcolumns=arstallandindex=1andformel=1125!8!1126!8!1127!8!1128andhier=instkode!9!fakkode!9!ufakkode!9!itar\\_idandsti=andparam=arstall%3D2020!9!kanaltypekode%3D1!8!2](https://dbh.hkdir.no/tall-og-statistikk/statistikk-meny/publisering/statistikk-side/10.1?visningId=278andvisKode=falseandadmdebug=falseandcolumns=arstallandindex=1andformel=1125!8!1126!8!1127!8!1128andhier=instkode!9!fakkode!9!ufakkode!9!itar_idandsti=andparam=arstall%3D2020!9!kanaltypekode%3D1!8!2) (accessed on April 20, 2021).
- Direktoratet for Høyere Utdanning og Kompetanse (HK-Dir) (2021a). *Database for statistikk om høyere utdanning – antall årsverk professorer (kvinner)*. Bergen: Direktoratet for høyere utdanning og kompetanse. Available online at: [https://dbh.hkdir.no/tall-og-statistikk/statistikk-meny/kjonn/statistikk-side/28.2?visningId=21andvisKode=falseandadmdebug=falseandcolumns=arstallandindex=1andformel=329!8!401!8!354andhier=insttype!9!instkode!9!fakkode!9!ufakkode!9!st\\_kodeandsti=andparam=arstall%3D2021!8!2020!8!2019!8!2018!8!2017!9!dep\\_id%3D1!9!st\\_kode%3D1013](https://dbh.hkdir.no/tall-og-statistikk/statistikk-meny/kjonn/statistikk-side/28.2?visningId=21andvisKode=falseandadmdebug=falseandcolumns=arstallandindex=1andformel=329!8!401!8!354andhier=insttype!9!instkode!9!fakkode!9!ufakkode!9!st_kodeandsti=andparam=arstall%3D2021!8!2020!8!2019!8!2018!8!2017!9!dep_id%3D1!9!st_kode%3D1013) (accessed on October 20, 2021).
- Direktoratet for Høyere Utdanning og Kompetanse (HK-Dir) (2021b). *Avlagte doktorgrader 2010–2021*. Oslo: HK-Dir. Available online at: <https://dbh.hkdir.no/tall-og-statistikk/statistikk-meny/doktorgrader/statistikk-side/9.2?visningId=32andvisKode=falseandadmdebug=falseandcolumns=arstall!8!semesterandindex=1andformel=120!8!159!8!160andhier=instkode!9!institusjonsnr!9!fakkode!9!ufakkode!9!progkodeandsti=andparam=arstall%3D2021!8!2020!8!2019!8!2018> (accessed on January 20, 2022).
- Direktoratet for Høyere Utdanning og Kompetanse (HK-Dir) (2020a). *Tilstandsrapport for Høyere Utdanning 2019*. Oslo: HK-Dir.
- Direktoratet for Høyere Utdanning og Kompetanse (HK-Dir) (2021c). *Tilstandsrapport for Høyere utdanning 2020*. Oslo: HK-Dir.
- European University Association (EUA) (2005). *Bologna Seminar on Doctoral Programmes for the European Knowledge Society (Salzburg, 3–5. February 2005)*. Conclusions and recommendations. Bologna: EUA.
- European University Association (EUA) (2010). *Salzburg II. Recommendations European Universities' Achievements Since 2005 in Implementing the Salzburg Principles*. Brussels: EUA.

## LIMITATIONS

This study has several limitations. The first is connected to formative dialogue research (Baklien, 2004), which was mainly carried out in this study *via* a general document analysis of policy documents and a bird's-eye view of the preliminary tendencies from 2018 to 2020. Such an approach creates several methodological challenges and limitations; therefore, it is important to underline that the study is a practise and policy review and not an ordinary empirical study with a more thorough in-depth perspective on the PhD programmes in WNGER II. It is also important to highlight that several of the challenges mentioned in the article may have been handled and improved by the institutions and PhD programmes during the last 2 years.

## AUTHOR CONTRIBUTIONS

The author confirms being the sole contributor of this work and has approved it for publication.

- European University Association (EUA) (2015). *Annual Report 2015*. Brussels: EUA.
- Forskerforbundet (2021). *En av tre kvinner er professorer*. Oslo: Forskerforbundet. Available online at: <https://www.forskerforbundet.no/nyheter/2021/en-av-tre-professorer-er-kvinner/> (accessed on November 10, 2021).
- Halse, C., and Malfroy, J. (2009). Rethorizing doctoral supervision as professional work. *Stud. Higher Educ.* 35, 79–92. doi: 10.1080/03075070902906798
- Krumsvik, R. J. (2016a). “The synopsis of article-based theses,” in *En doktorgradsutdanning i endring – med fokus på den artikkelbaserte ph.d.-avhandlingen (A doctoral education in alteration – with focus on the article-based PhD thesis)*, eds R. J. Krumsvik (Oslo: Fagbokforlaget), 93–123.
- Krumsvik, R. J. (2016b). “Noen betraktninger om forskningsveiledning ph.d.-nivå (Some considerations about supervision at the doctoral level),” in *En doktorgradsutdanning i endring – med fokus på den artikkelbaserteph.d.-avhandlingen (A Doctoral Education in Alteration – With Focus on the Article-Based PhD Thesis)*, ed R. J. Krumsvik (Oslo: Fagbokforlaget), 125–148.
- Krumsvik, R. J. (2017). Trenerene i den akademiske maraton (The trainers in the academic marathon). *Utdanningsforskning (Educational Research)*. Oslo: The Educational Association, 1–3
- Krumsvik, R. J., and Jones, L. (2016). Hvorfor dropper “kronjuvelen” ut? (Why do the “crown jewels” drop out?). *Tidsskrift for Norsk Psykologforening. J. Norwegian Psychol. Assoc.* 12, 1022–1024.
- Krumsvik, R. J., Jones, L., Leer-Salvesen, K., Høydal, K., and Røkenes, F. (2019). Face-to-face and remote teaching in a doctoral education course: Using flipped classroom, formative assessment and remote teaching to increase the teaching quality of a literature review course. *J. Higher Educ. Norway* 2, 194–214. doi: 10.18261/issn.1893-8981-2019-02-07
- Krumsvik, R. J., Mæland, B., and Solstad, S. H. (2021). “Doctoral education in Norway and inter-institutional collaboration within doctoral education – A case study. Some preliminary tendencies from Western Norway Graduate School of Educational Research II (WNGER II) – Consortium's experiences 2017–2019,” in *The Future of Doctoral Research Challenges and Opportunities*, eds A. Lee and R. Bongaardt (London: Routledge), 88–98. doi: 10.4324/9781003015383-13
- Krumsvik, R. J., Øfstegaard, M., and Jones, L. (2016a). “Retningslinjer og vurderingskriterier for artikkelbasert ph.d.-avhandling (Guidelines and assessment criteria for article-based doctoral thesis),” in *En doktorgradsutdanning i endring – med fokus på den artikkelbaserteph.d.-*

- avhandlingen. (A doctoral education in alteration – with a focus on the article-based PhD thesis, ed R. J. Krumsvik (Oslo: Fagbokforlaget), 29–49.
- Krumsvik, R. J., Øfstegaard, M., and Jones, L. Ø. (2016b). Retningslinjer og vurderingskriterier for den artikkelbaserte ph.d.-avhandlingen. (Guidelines and assessment criteria for article-based doctoral thesis). *J. Higher Educ. Norway* 39, 78–94. doi: 10.18261/issn.1893-8981-2016-01-07
- Krumsvik, R. J., and Røkenes, F. (2016). "Literature review in the PhD thesis," in *En doktorgradsutdanning i endring – med fokus på den artikkelbaserte ph.d.-avhandlingen (A doctoral education in alteration – with focus on the article-based PhD thesis*, ed R. J. Krumsvik (Oslo: Fagbokforlaget), 51–91.
- Kunnskapsdepartementet (2018). *Forskrift om kvalitetssikring og kvalitetsutvikling i høyere utdanning og fagskoleutdanning*. Oslo: Lovdata. Available online at: [https://lovdata.no/dokument/SF/forskrift/2010-02-01-96#KAPITTEL\\_3](https://lovdata.no/dokument/SF/forskrift/2010-02-01-96#KAPITTEL_3) (accessed on November 12, 2019).
- Kunnskapsdepartementet (KD) (2016). *Konsentrasjon for kvalitet. Strukturreform i universitets- og høyskolesektoren (strukturreformen)*. Oslo: Kunnskapsdepartementet. Available online at: <https://www.regjeringen.no/contentassets/86d1e31e78b44de6a3a15e913b092bf4/no/pdfs/stm201420150018000ddpdfs.pdf> (accessed on April 10, 2020).
- Kunnskapsdepartementet. (KD) (2017). *Forskrift om tilsyn med utdanningskvaliteten i høyere utdanning (studietilsynsforskriften)*. Oslo: Lovdata. Available online at: [https://lovdata.no/dokument/SF/forskrift/2017-02-07-137#KAPITTEL\\_2](https://lovdata.no/dokument/SF/forskrift/2017-02-07-137#KAPITTEL_2) (accessed on January 20, 2020).
- Linde, Göran. (2016). *Det ska niveta!* En introduktion till läroplansteori. Lund: Studentlitteratur.
- Lindensjö, B., and Lundgren, U. P. (2014). *Utbildningsreformer och politisk styrning*. Stockholm: HLS Förlag.
- Ludvigsen, S. R., and Ullsnes, K.-A. (2013). Forskerskoler som modeller for forskerutdanning: Progresjon og utvikling av ekspertise. *Uniped* 4, 65–83. doi: 10.3402/uniped.v36i4.23144
- Lundgren, U. (1999). Ramfaktorteori och praktisk utbildningsplanering. *Pedagogisk Forskning i Sverige* 1, 31–41.
- Merriam, S., and Tisdell, E. J. (2016). *Qualitative Research. A Guide to Design and Implementation*. New York, NY: Jossey-Bass
- Merton, R. K. (1968). The Matthew effect in science. *Science* 159, 56–63 doi: 10.1126/science.159.3810.56
- NOKUT (2020). *Veiledning om akkreditering av studietilbud – høyere utdanning Veiledning til institusjoner som søker NOKUT om akkreditering*. Oslo: NOKUT. Available online at: [https://nokut-publicweb-staging.quesnay.com/siteassets/akkreditering-hu/sokerveiledning-akkreditering-studietilbud\\_september-2020.pdf](https://nokut-publicweb-staging.quesnay.com/siteassets/akkreditering-hu/sokerveiledning-akkreditering-studietilbud_september-2020.pdf) (accessed on April 20, 2021).
- NOKUT (The Norwegian Agency for Quality Assurance in Education) (2014). *The Norwegian Qualifications Framework for Lifelong Learning*. Oslo: NOKUT. Available online at: [https://www.nokut.no/siteassets/nkr/20140606\\_norwegian\\_qualifications\\_framework.pdf](https://www.nokut.no/siteassets/nkr/20140606_norwegian_qualifications_framework.pdf) (accessed on April 13, 2020).
- NOKUT (The Norwegian Agency for Quality Assurance in Education) (2017). *NOKUT's Academic Supervisions Regulations Concerning Supervision of the Educational Quality in Higher Education (Academic Supervision Regulations)*. Oslo: NOKUT. Available online at: [https://www.nokut.no/siteassets/om-nokut/nokut\\_academic\\_supervisions\\_regulations.pdf](https://www.nokut.no/siteassets/om-nokut/nokut_academic_supervisions_regulations.pdf) (accessed on April 15, 2019).
- Norwegian Research Council (NRC) (2018). *Evaluation of Norwegian Education Research. Report From the International Expert Committee*. Final Report. Oslo: Norwegian Research Council. Available online at: <https://www.forskningsradet.no/siteassets/publikasjoner/1254033705916.pdf> (accessed on April 20, 2019).
- Norwegian Research Council (NRC) (2012). *Evaluation of PhD Education in Norway*. Oslo: NRC.
- Peelo, M. (2011). *Understanding Supervision and the PhD*. London: Continuum Publishing Corporation.
- Piro, F., Skjelbred, S. E., Aksnes, D., Nesje, K., and Børing, P. (2018). *Evaluation of The National Research School Scheme*. Oslo: NIFU.
- Reymert, I., Nesje, K., and Thune, T. (2017). *Doktorgradskandidater i Norge. Forskeropplæring, arbeidsvilkår og karriereforventninger*. NIFU, Rapport 2017:10. Oslo: NIFU.
- Sarpebakken, B. (2019). *Doktorgradsstatistikk. Tabeller og figurer*. Oslo: NIFU. Available online at: <https://www.nifu.no/wp-content/uploads/2019/03/Figurer-og-tabeller-1980-2018.pdf> (accessed on April 12, 2020).
- Sarpebakken, B., and Steine, F. (2021). *Statistikk fra Doktorgradsregisteret: Doktorgrader i tall. Nesten 900 nye doktorer våren 2021*. Oslo: NIFU. Available online at: <https://nifu.brage.unit.no/nifu-xmlui/bitstream/handle/11250/2829884/NIFU-innsikt2021-14%20Doktorgrader.pdf?sequence=1&disAllowed=y> (accessed on January 20, 2022).
- Universitets- og høyskolerådet (UHR) (2018). *Veiledende retningslinjer for Gradene philosophiae Doctor (Ph.D.) Og philosophiae Doctor (Ph.D.) i kunstnerisk utviklingsarbeid*. Available online at: [https://www.uhr.no/\\_f/p1/i149deccf-3943-4df6-a6ec-d54c20f9bd59/versjon-a-felles-veiledende-retningslinjer-for-phd-gradene.pdf](https://www.uhr.no/_f/p1/i149deccf-3943-4df6-a6ec-d54c20f9bd59/versjon-a-felles-veiledende-retningslinjer-for-phd-gradene.pdf) (accessed on April 20, 2020).
- University of Bergen (UiB) (2020). *The Candidate Survey 2019*. Bergen: University of Bergen.

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