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From a professional practitioner to a practice-based researcher: a qualitative study of Norwegian PhD candidates in the fields of health, welfare and education

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ABSTRACT

This study aims to describe and interpret the critical aspects of the development of PhD candidates' professionally relevant, practice-near research competence in the fields of health, welfare and education. To provide knowledge regarding their development, a qualitative research design and phenomenological hermeneutic approach were used. Ten PhD candidates at a Norwegian multi-disciplinary research school were recruited through non-probability sampling. The following four themes emerged from the analysis: (1) relinquishing the professional status as a practitioner, (2) struggling at a low level of competence, (3) achieving autonomy as a PhD candidate, and (4) wanting to advance professional practice. The PhD candidates experienced loss when they relinquished their former professional status to become researchers while simultaneously struggling at a low level of competence compared to that of other qualified researchers. Thus, the importance of achieving autonomy to advance professional practice cannot be too strongly emphasised when PhD candidates are newcomers in a peripheral position within research communities.

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Competence; communities of practice; PhD candidates; professionally relevant and practice-near research; purpose

Introduction

Within the European context, competence is considered a pillar in higher education systems and knowledge-based economies, and is among the key competitive factors when facing challenging societal changes (EUA 2005; OECD 2014; St.Meld.7 2014-2015; St.Meld.16 2016-2017). The development of research competence most often requires doctoral-level education, and such competence is mainly acquired through a PhD programme and continues to develop throughout one's working life (Mantai 2017; Pennbrant et al. 2013). Researchers are highly educated members of the labour force who accelerate knowledge production and can make substantial contributions addressing social challenges, such as poverty, ageing and health; providing accountable services; and

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using research to generate sustainable solutions with societal impacts (OECD 2014; Nerland 2018; Nyström et al. 2017).

Considerable research has focused on PhD candidates' development as competent researchers (Ampaw and Jaeger 2012; Baker and Pifer 2011; Mantai 2017; McAlpine, Pyhältö, and Castellò 2018; Murakami-Ramalho, Militello, and Piert 2013) and indicated that development is characterised by several critical aspects. One such aspect is the threat of not ultimately becoming a researcher (Archer 2008; Auxier, Hughes, and Kline 2003). Another aspect is increased feelings of uncertainty related to academia with an emphasis on producing the 'right' products (Archer 2008). The lack of clarity regarding doctoral expectations and an incomplete understanding of academic life or whether their ideas can be aligned with those of academia are also highlighted (Bieber and Worley 2006; McAlpine and Amundsen 2009). The supervision process can involve negative relationships with supervisors and feelings of shortcoming or being forgotten. The complexity involved in such processes can cause chaos, and, thus, contribute to drop out (Cornwall et al. 2018; Leijen, Lepp, and Remmik 2016). Drop out is critical particularly related to the dramatic increase in the need for research competence. For example, in the field of nursing education in Norway, within 10 years, more than 50 percent of researchers will be aged older than 67 years, implying that additional competent nursing researchers must be developed in the near future (Aamodt, Nesje, and Olsen 2018).

This study addresses how Norwegian PhD candidates with different professional backgrounds develop research competence. Importantly, upon entering a PhD programme, candidates have work experience from practice-based fields, transfer their competence as professionals to their doctoral education, and focus on developing competence as a practice-based researcher in a professional field (health, welfare or education). PhD candidates have a three or four year contract with the university. A four year contract includes service as a faculty member (i.e. lectures and supervision of bachelors or master's degree students). Many candidates aspire to enter academia as a professionally relevant, practice-near researcher and use their newfound competence as a researcher in their field of practice.

To support competence development, the candidates at regular PhD programmes were offered membership in a national multi-disciplinary research school established in 2014 as a collaboration among four Norwegian universities. Research schools and PhD programmes in general have clear intentions to educate researchers at a high international level and contribute to the rise of global systems of regulation across national boundaries, such as the Bologna Process (Aitolla 2017; Murakami-Ramalho, Militello, and Piert 2013). In addition, research schools often have the potential to organise programmes to address the societal changes associated with the modernisation of welfare states (Geschwind and Melin 2016). The current research school is not a structured and guided 'practitioner doctorate' programme where the PhD candidates' prime motivation is focusing on a specific and demarcated area of professional practice (Watts 2009). Nevertheless, the research school aims to educate practice-based researchers to develop knowledge regarding or for professional practice in a more general perspective. Such a researcher identifies, analyses and evaluates research questions that refer to complex processes transcending disciplinary boundaries. The research focuses on issues of relevance for practice within a complex multi-professional context, bridges science and practice and creates processes or activities with the goal of advancing the body of scientific knowledge to meet practice

needs (Fillery-Travis and Robinson 2018; Frogett and Briggs 2012; Hoffman, Pohl, and Hering 2017). These processes imply influencing, changing, and validating practice (i.e. within the field of health, welfare or education) and conducting research that is rational to professional practitioners and service users (Frogett and Briggs 2012). Furthermore, the goal implies contributing to an increased understanding of the profession and practice (Gray et al. 2015; Heinsch, Gray, and Sharland 2016).

Thus, this study's PhD candidates' competence development implies a transition from being professional practitioners to becoming professionally relevant, practice-near researchers in the fields of health, welfare and education. Therefore, these candidates represent a particularly interesting case. There seems to be a knowledge gap concerning the process of fully developing competence as a researcher specialised in professionally relevant, practice-near research problems. Few studies have focused on this issue, and therefore, it is urgent to clarify the critical aspects related to how the development of practice-based research competence is acquired within the research community. We propose that such development might involve a struggle to gain diverse research knowledge to meet professional, practical needs and receive acknowledgement and legitimacy as a skilled researcher. The aim of this study was to describe and interpret the critical aspects of the development of PhD candidates' professionally relevant, practice-near research competence in the fields of health, welfare and education.

Background

This study is framed by the concept of competence based on the communities of practice framework originated in the work conducted by Lave and Wenger (1991). Since the 1990s, competence emerged as a concept based on their social theory of learning drawing upon a sociocultural perspective (Lave and Wenger 1991; Wenger 1998). Communities of practice refer to 'learning partnerships' that can arise when human endeavour are formed through pursuing a purpose over time, implying that a group of people are sharing 'a joint enterprise' and learn how to achieve the purpose better through their interaction (Wenger 1998, 77). Social processes are essential as they contribute to knowledge that is 'a matter of competence with respect to valued enterprises' (Wenger 1998, 4). Competence is an integral part of social practice or transaction between newcomers (learners) and the social environment (Farnsworth, Kleanthous, and Wenger-Trayner 2016). Moreover, communities of practice develop regimes of competence reflecting the 'shared histories of learning' to which newcomers are accountable (Wenger 1998, 86). Therefore, social practices entail the power to define competence, particularly to those who have legitimacy to enforce it, and the community is constituted by interrelated practices that sustain its existence through local definitions of competence (Farnsworth, Kleanthous, and Wenger-Trayner 2016). Thus, communities of practice create a boundary between those who participated in the community and those who have not. A newcomer may have 'a naïve view of things' but has the capacity to learn and develop competence by engaging in communities (Farnsworth, Kleanthous, and Wenger-Trayner 2016, 145).

The motivational idea that competence develops in the environment has been used since at least the 1950s (White 1959), and competence has been discussed in the human resource management literature since the 1980s (Boyatzis 1982). However, there is no singular definition of competence, and diverse approaches are found (Delamare

Le Deist and Winterton 2005). The concept can be described as a product centred on the individual (Bing-Jonsson, Bjørk, and Hofoss 2013; Eraut 1994) compromising specific and generic competences (Delamare Le Deist and Winterton 2005). Specific competence refers to behavioural attributes constituting satisfactory performance to be trusted with autonomy or a degree of responsibility in the areas within one's range of competence (Eraut 1994); specific competence is a capacity measured by appropriate conduct (Mantai 2017; Meretoja, Isoaho, and Leino-Kilpi 2004), indicating that it can be observed in a reductive and behavioural matter (Boyatzis 1982). Therefore, cognitive and affective attributes have been added, implying a capacity to integrate knowledge, skills, attitudes and values into specific practices (Bing-Jonsson, Bjørk, and Hofoss 2013; Meretoja, Isoaho, and Leino-Kilpi 2004). Other researchers have identified generic competence attributes or 'meta-competencies', such as communication, self-development, reflection, problem-solving and analytical capacities (Delamare Le Deist and Winterton 2005). Related to research, competence can be considered to incorporate generic attributes, such as diverse knowledge, and analytical judgement, including critical consideration of theories, evidence and innovations that challenge practice and analytical and ethical reasoning (Zlatanovic et al. 2018).

Materials and methods

Design

This longitudinal study is a part of a larger project initiated by a Norwegian multi-disciplinary research school. The project focuses on PhD candidates with professional backgrounds and explores their development as competent researchers in professionally relevant, practice-near research. A qualitative research design was selected. The chosen phenomenological hermeneutic approach inspired by the French philosopher Paul Ricoeur (1998) can facilitate understanding of the PhD candidates' experiences. The phenomenological component focuses on the investigation of experiences of the development of competence, while the hermeneutical component contributes to the interpretation of the issue. The phenomenological hermeneutic analysis was conducted as a dialectic movement between understanding and explanation, between the whole and parts (Ricoeur 1976).

Participants

The sample was recruited based on a non-probability sampling method through the use of convenience sampling procedures (Polit and Beck 2017). The inclusion criteria were PhD candidates attending the research school and who had a professional background. The specific professions were not a focus of the analysis; however, professions related to health, welfare and education have in common that they are relation-based and involve caring for people. A total of 22 PhD candidates were invited by the administrative leader of the research school to participate in the study. Ten PhD candidates agreed to participate. They were all women aged between 29 and 58 years and had extensive, wide-ranging work experiences as professional practitioners lasting from 6 to 35 years. The participants were in the first or middle stage of their PhD programmes, and their

theses were focused on different professionally relevant, practice-near research problems.

Data collection

The data were collected through individual, open-ended interviews and follow-up interviews (20 in total) conducted in 2015 and 2016 (Kvale and Brinkman 2009; Silverman 2006). The use of follow-up interviews was intended to allow the participants time for reflection after the first individual interviews to achieve the research aim and elicit more in-depth and broader information regarding the participants' perceptions of their everyday experiences. The first individual interviews were conducted one year before the follow-up interviews, and each interview lasted for 40–90 minutes. To obtain access to the participants' experiences of developing competence in professionally relevant, practice-near research, we initially asked the participants to narrate, in their own words, their development of competence in such research. We then encouraged the participants to describe their experiences further, more freely and at length and asked them to elaborate more on what they already had discussed. By asking open questions, we largely avoided leading the participants' answers. Specific questions were also posed, such as the following: 'What can you tell me about yourself as researcher?' 'How do you build competence, and what are you looking for regarding your development as a researcher?' 'What has the process of developing research competence been like since you started studying at the research school?' 'How has your competence changed during the last year?'

Ethical considerations

The study was approved by The Norwegian Centre for Research Data (no. 43829). Verbal and written information about the study was given by the administrator to all the PhD candidates at the research school. Those who wished to participate in the study were asked to send an e-mail to one of the researchers, and written consent was obtained before participation. The participants were assured confidentiality and notified about their right to withdraw.

Analysis

The data from 250 pages of interview transcripts were analysed based on the three-step phenomenological hermeneutic method presented by Ricoeur (1976). The analysis took the form of a dialectical movement between naïve reading, composition of alternative thematic readings, and development of comprehensive understanding to move beyond understanding what the data said to understanding what it talked about (Ricoeur 1976). The analysis was conducted by reading and re-reading the data to interpret the participants' experiences of developing competence as practice-based researchers.

Naïve reading was performed by reading the text several times to formulate a preliminary interpretation of the text (Ricoeur 1976). Such an interpretation is a 'guess' (Ricoeur 1976, 75) or 'a surface interpretation' (Ricoeur 1976, 87) undertaken by researchers separately and together; in our study, it allowed us to acquire a good grasp of the whole empirical material and a spontaneous understanding of what the text talked about.

Through naïve reading, we determined that developing competence as researcher implied moving from a 'peak' when the PhD candidates experienced being acknowledged as professional practitioners to a 'deep valley' when they were struggling but, despite this, wanted to continue to develop as researchers. This naïve interpretation provided direction for further analysis.

The next step was an inductive analysis involving repeated reading of the whole text and its parts to de-contextualize the text and identify meaning units, which included a focus 'more directed towards the analytic structure of the text' (Ricoeur 1976, 74). This analysis was conducted by the first author, and the other authors acted as co-readers. Several reflective questions were posed about the text, focusing on what the text said, what it meant or revolved around and what it implied. The reflective questions gradually contributed to de-contextualizing the text and structuring it into themes. The themes were abstractions based on identified and condensed meaning units. Thus, the analysis was conducted with no pre-determined themes.

The third step was developing a comprehensive understanding. We re-read the naïve understanding and validated themes from the subsequent thematic analysis 1976 and reflected upon the study's aim and the literature to formulate an overall interpretation of the meaning rooted in the text; thus, a more in-depth interpretation (Ricoeur 1976) of the data emerged, resulting in a description of the study's comprehensive understanding.

Strengths and limitations

Although the PhD candidates were recruited from a single research school in one country, the trustworthiness of the study is considered a strength. The candidates had daily experiences of events associated with their development of competence in professionally relevant, practice-near research in the fields of health, welfare and education. A longitudinal design with qualitative follow-up interviews after one year made it possible to collect rich and nuanced data. The researchers posed follow-up questions, and the method of collecting data allowed the PhD candidates to describe their experiences freely and at length. Furthermore, the phenomenological hermeneutic analysis (Ricoeur 1976) allowed the researchers to describe and interpret the empirical material in an appropriate, systematic and logical way. Through this analytical approach, the study's themes were found to be credible, meaning that the themes and comprehensive understanding validated the naïve understanding. Additionally, the findings were formulated based on discussion among the researchers, who met several times to reach consensus, which increases the trustworthiness of the study. The analysis has also been sufficiently described. Nonetheless, the data may be considered limited because of the translation of the interviews from Norwegian to English, which resulted in the loss of some of the naturally occurring richness in daily language.

Results

Thematic analysis

The following four themes that emerged from the analysis demonstrate the PhD candidates' process of competence development in professionally relevant, practice-near

research within the fields of health, welfare and education: (1) relinquishing the professional status as a practitioner, (2) struggling at a low level of competence, (3) achieving autonomy as a PhD candidate and (4) wanting to advance professional practice. When the PhD candidates' relinquished their status as professional practitioners in their fields, they passed from a 'peak' to a 'deep valley' as they struggled as researchers. Nevertheless, the PhD candidates gradually developed autonomy to influence or validate professional practice.

Relinquishing the professional status as a practitioner

Relinquishing the professional practitioner status represented a loss of prestige in terms of competence and, therefore, was a critical aspect in the development of research competence. The PhD candidates voluntarily left their positions when they were at a 'peak' as professional practitioners, and their leaving was associated with being skilled and recognised due to their diverse knowledge and capacity for analytical judgement. The PhD candidates belonged to a community of professional practitioners. Their competence facilitated multi-professional collaboration and engagement in demanding work situations. One PhD candidate said:

I worked in familiar environments with a sense of being competent as a nurse. I was skilled in my work, and I had extensive practical experience, and yes, I was acknowledged as skilled in that ward. I had the capacity to discuss situations and be close to people when they were afraid or very sick. I was not scared and managed to stand in the middle and handle demanding situations. (9)

For the participants, relinquishing their professional status as practitioners implied relinquishing a status that they considered a vital part of themselves. One PhD candidate with a background as a nurse expressed, 'I have my heart in the field of practice' (10). Those previous days evoked positive feelings but also generated a feeling of longing:

I'm longing for everyday practice and being a nurse. Sometimes it makes me sad; I wish that I could have been there and been performing nursing care. When someone asks me what I'm doing now, I never answer that I'm a researcher. (9)

Leaving their professional positions started in seemingly random ways for the participants: 'I was "sucked into it", meaning it did not involve a long-term plan or a five-year plan' (3). Some of the candidates had received advice or a telephone call with an invitation from the master's degree supervisor that triggered their applications for admission to the PhD programme; others had an interest in a research topic they wanted to study. Without knowing where their academic careers would end, the PhD candidates took a chance when they left their professional roles as practitioners. Therefore, their relinquishment of their professional practitioner status did not represent a loss that was strong enough to prevent them from pursuing a PhD:

After several years as a nurse, it was time to do something else, and thus, pursuing a PhD was different compared to my work as a nurse, involving new challenges and more freedom. (9)

Struggling at a low level of competence

Having left a 'peak' as a professional practitioner was another aspect that the PhD candidates experienced as critical to their development, particularly when they were in a 'deep

valley' struggling with low competence compared to that of other qualified researchers. They had been skilled professional practitioners, but nonetheless, development of research competence 'must be learned the hard way' (7). The PhD candidates perceived themselves as non-skilled or thought they would never be skilled enough as researchers; thus, research competence was associated with uncertainty and seen as an uncomfortable place. The PhD candidates did not have diverse knowledge and analytical judgement in professionally relevant, practice-near research. They also perceived that they lacked legitimacy, as they were just PhD candidates. One candidate with a professional background as a nurse explained the difficulty as follows:

It is a sense of being below everyone, everything is abuzz, and everything is chaotic. Each day brings something new that is difficult to understand, and I think, 'Hallo, what is this?' I had never heard of it before. (5)

Struggling at a low level of research competence caused a sense of being alone and not being seen at all. In their new roles, the PhD candidates experienced a feeling of inferiority, which led to negative feelings or intense anxiety, as expressed by one PhD candidate with a professional background as a social worker:

I have a chronic feeling of inferiority; I really can't manage this. It feels like going seven miles each day with shoes that are too large or being a mountain climber who is hanging there and instead wants to cling to the mountainside. (6)

Such feelings of inferiority were heightened in the face of the academic culture of rejection. In this context, the PhD candidates had to overcome challenges or boundaries to increase their competence and avoid disruption of their development. One challenge was related to their scientific writings. The difficulty writing in a clear, short and concise manner and the amount of time that high-level academic writing required was unexpected: 'I have to work precisely, and yes, it was necessary to put an article aside for a while' (4). When learning 'how to pin down thoughts on the paper' (6), neither supervisors nor reviewers seemed to be satisfied with the quality of the PhD candidates' writings, which were returned to them with many red markings. To produce the 'right' sentence was not an easy task, as one sentence can be interpreted in 'ten different ways' (2), and consequently, some candidates stated that they 'are upto their necks writing their PhD' (4).

Another challenge was related to senior researchers and supervisors. The PhD candidates did not ignore the very large amount of methodological and theoretical knowledge covered by senior researchers, but rather met them with 'honest and respectful and careful attitudes' (10). However, in supervision situations, where senior researchers demonstrated a kind of 'cocksure attitude' or 'patent on wisdom' (5), the PhD candidates perceived a lack of humility. Some of the senior researchers were perceived by the candidates as lacking humility, even when their criticisms were not necessarily relevant. The PhD candidates did not always have enough knowledge to consider the feedback given in a supervision process, and some senior researchers or the candidates' supervisor(s) also were rather difficult to contact. As a result, it was easy for the candidates to make mistakes, particularly when certain analysis procedures were very new to them or were somewhat unfamiliar even to their supervisors. In such cases, both supervisors and candidates lacked relevant competence. The supervisors sometimes allowed the PhD candidates to struggle with

their challenges alone. One candidate explained the supervisor-candidate relationship as follows:

Yes, I have my supervisor; however, I can't disturb her too much. Right now, I'm very frustrated, tired and have to shift deadlines. It has been very demanding when my supervisor make criticisms in an e-mail, and consequently, I have to correspond to the supervisor and argue for my methodological approaches. (2)

The PhD candidates had to read and re-read what they had written as well as different sources that had been suggested by their supervisors or that they had identified themselves to critically consider in terms of their theoretical and methodological approaches. They had to clarify their own research and argue for what they were doing. Nonetheless, to gain competence as a researcher, developing scientific knowledge and reducing their uncertainty were perceived as forms of continually learning through activity, which was seen as knowledge that would last longer than their PhD studies: 'This is something you keep up with the rest of your professional career, and I have to develop further as a researcher to stay on my own feet' (2).

Achieving autonomy as a PhD candidate

Achieving autonomy was also experienced as a critical aspect of the development of research competence, as it revolved around gradual development in the candidates' fields, participation in discussions considered relevant to earning a PhD and achieving future positions within the research community. Achieving autonomy involved the candidates realising personally chosen goals of gaining competence to reach their own potential. Something within the PhD candidates, such as their inner states or sustainable emotional outlooks, was regarded as a prerequisite to achieving autonomy by pursuing their purpose over time. They engaged in feedback processes, were open to critical comments from their supervisors to integrate scientific standards in their research work, and were aware that many possible answers and different ways to conduct research existed. One PhD candidate with background as a nurse explained as follows:

You just have to take criticism with 'a pinch of salt', meaning developing a less unsure attitude and still feeling comfortable, because I can to a great extent consider the criticism. Criticism can strengthen me when I manage to use what is constructive for me and contribute to further advancing the research process. (5)

Achieving autonomy involved working earnestly to put 'stone on stone'. Even when the quality of their scientific work could have been improved, the PhD candidates had to acknowledge their skills. They acknowledged their skills by giving themselves 'a pat on the shoulder', meaning they trusted themselves as researchers, or as expressed by the candidates, 'being my own primus motor' (5) and 'doing it my way' (9). This approach required critically considering the possibilities within the field of research and making relevant decisions, such as, for example, selecting theoretical and methodological perspectives or collecting data as a confident researcher, e.g. 'asking the participants to tell more when using interview as a research method and then, experiencing that participants told more, and that was fun' (6). Achieving autonomy also implied gradually becoming capable of independently managing complex, demanding situations within the candidates' practice fields and solving challenges. The PhD candidates sometimes were alone when

doing their research with no one to discuss the research with when their supervisors were not there. One PhD candidate stated,

I have developed my capacity to reflect, which is important in research and particularly in developing my capacity to be critical and capable of reading and evaluating my own and others work, identify the nuances and disseminate the research results to society. (3)

Earning their PhDs required the candidates to focus on their own research work and set strict priorities to complete their degrees within the scheduled time. Completing their degrees required hard work, more than the PhD candidates had ever imagined and more than an ordinary job required. One candidate stated, 'I have never before spent so much time on work as just now' (4); another said,

I have a task to do, yes, and I consider this task to go beyond an ordinary task; it is more like a lifestyle. It is my interest even though I'm quite a down-to-earth person who wants to listen to others and contribute to the field of practice and that's life. Sure, I'm on the right path for me. (10)

The PhD candidates reflected on the hard work in general that research required, which caused them to worry. They questioned whether they could manage that kind of lifestyle or consider it a good life. One PhD candidate explained this sentiment in-depth:

Within academia, there seems to be a culture involving too much work; some work themselves to death until they get sick and need a sick leave. Is that ok? The organizational framework for doing research may not be suitable in relation to what is required, and then, doing the work has a high price. It can't be like that, that academics work until they are exhausted, which too many PhD candidates experience after their doctoral degree. If all one's colleagues work a lot, then it is not easy to avoid doing the same. (6)

Finishing a PhD was associated with the development of competence as a skilled researcher who would secure a permanent job within academia and be well known and remembered for his or her national and international contributions. Some of the PhD candidates had already participated in conferences and 'got access to a wider academic life' (4). One candidate explained,

I want an academic career at a university, and yes, saying this implies having personally developed. It has been a process. I want to work close to practice and not become a dismissed and dusty professor just sitting in an office and writing about issues. (6)

To gain competence, receive acknowledgement as researchers within their practice fields and achieve their personally chosen purposes, the foremost task for the PhD candidates was to conduct practice-based research that was relevant to their professional fields.

Wanting to advance professional practice

Earning their PhDs was not enough for the PhD candidates. They also aimed to contribute to the present or future body of scientific knowledge so their research would be professionally relevant and practice-near. They wanted to positively influence or validate practice within the fields of health, welfare and education. Being skilled as a professional practitioner could therefore reduce their risk of producing irrelevant knowledge. Their skills provided them insight into professionally relevant, practice-near research based on their practical experiences:

I look upon myself as a researcher doing research because I have an interest in my profession and to use my own nursing profession as a field of research would be more difficult if I had another professional background. (5)

One PhD candidate worked to validate professionals' skills within the field of health by becoming engaged with and building respect for and loyalty to nurses as follows:

It is important to point out the worth of nurses' knowledge and experiences within the field of practice, as I, as a researcher, appreciate their practical knowledge. This implies that they can tell me whatever they want, and I will reflect on what is said. (9)

Another PhD candidate validated professional practice by articulating and recognising nurses' knowledge. Such validation included problematising, analysing and evaluating practical knowledge within nursing care and increasing nurses' understanding of their high-quality practice. The candidate said that this involved 'conducting research on what nurses are doing when caring for the sickest and most cognitively impaired patients and what have they done in their caring when patients calm down and have a better day' (6).

In addition, one PhD candidate focused on how professionally relevant, practice-near research influenced professional practitioners' support for service users. For example, foster parents often ask for a checklist of best practices and the symptoms that indicate that something is wrong with a child or teenager. This PhD candidate noted that practitioners can support and acknowledge what to do in caring relationships without using checklists and instead should know what kind of knowledge is required to help. The candidate explained as follows:

Foster parents need evidence-based knowledge, meaning more comprehensive knowledge than a biological mother and father, to prevent caring for the child from becoming too difficult for them. It is not enough with a kind of checklist to understand the situation of a foster child and how foster parents can take care of the child. (6)

Professional practice can be influenced by conducting research aimed at developing digital learning (e-learning) resources. Within the field of education, alternative resources to traditional lectures are considered useful and can heighten education quality. Digital learning resources can be offered, for example, to bachelor nursing students to enhance their reasoning and facilitate their decision making. Students can be exposed to various reality-based situational experiences that are not necessarily accessible in practice fields, and they can learn in secure but still realistic environments. One PhD candidate said the following about simulation-based research scenarios within nursing education:

The scenario is rather realistic when a nurse meets a patient, for example, with chronic obstructive pulmonary disease at the patient's home, and the patient asks questions to the nurse. Then, the candidates hear the nurse's answer, and after listening, they can get a fuller answer by using "the right answer button", and they are challenged to use their own knowledge and reflect. (7)

Developing competence to advance professional practice within the fields of health, welfare and education involves being successful as a researcher, which pleased the PhD candidates and made them feel satisfied. One candidate said:

Some teachers have reported that they use the knowledge acquired when they were participants in my research project, and some schools have more permanently implemented several interventions from my project in their practical field. (4)

When the PhD candidates perceived that conducting professionally relevant, practice-near research to advance professional practice was less complicated than it was in the beginning, the progress gave them energy to continue with their development.

Comprehensive understanding

The development of competence as a researcher specialising in professionally relevant, practice-near research was experienced as a continuous stream of movement or a transition between different regimes of competence in the candidates' different communities of practice. This comprehensive understanding can be highlighted, as the naïve reading and thematic analysis revealed that relinquishing the professional status was one of the critical aspects of the PhD candidates' development. Achieving autonomy as a relatively skilled researcher was another critical aspect of the development of competence. The comprehensive understanding is discussed along these lines.

Discussion

The PhD candidates relinquished their status within the professional practitioner community and became newcomers in a peripheral position within the research community. In the view of Lave and Wenger (1991), leaving a professional position can be understood as a critical aspect of the PhD candidates' development of professionally relevant, practice-near research competence in the fields of health, welfare and education. The candidates were in a transition between different communities of practice. They had to transition from a 'peak' as a professional practitioner and experience a loss of a 'product', i.e. being a skilled professional practitioner with a specific competence and being recognised for one's diverse knowledge. Simultaneously, their claims of research competence were perceived as provisional, implying that their competence was lower than that of other qualified researchers. It was an ongoing struggle to achieve the 'new product' of practice-based research competence, including generic attributes, such as diverse scientific knowledge and analytical judgement (Zlatanovic et al. 2018) relevant within complex multi-professional contexts that transcend disciplinary boundaries with the goal to advance professional practice (Frogett and Briggs 2012; Hoffman, Pohl, and Hering 2017). Such a struggle can cause one to question one's belonging in scholarly communities (Cornwall et al. 2018). One precondition of working from a low competence to becoming competent in professionally relevant, practice-near research was that no struggle stood in the way of the PhD candidates' development and prevented their achievement of autonomy.

Achieving autonomy was another critical aspect of the PhD candidates' development of competence; achieving autonomy bridged the gap between being skilled as a professional practitioner and a practice-based researcher in the fields of health, welfare and education. This finding is important. In the view of Lave and Wenger (1991), achieving autonomy can be understood as an expression of how the PhD candidates as newcomers negotiated claims to research competence. Wenger (1998) states that negotiations from a peripheral

position involve 'brokering or connections, meaning processes of translation, coordination and alignment' across perspectives of different communities (109). By achieving autonomy, it became possible for the PhD candidates to contribute to advancing professional practice, including validating professional practice and benefiting professional practitioners and service users. Thus, bridging the gap implied translation, coordination and alignment of the competence as professional practitioners to gain a higher status in terms of their competence as PhD candidates within the community of practice that they had left and where they once were skilled professional practitioners. In addition, this required competence as a professional practitioner to be integrated as a part of the research competence to independently address their practice-based research. However, the qualified researchers had power to establish boundaries, which are necessary for achieving any depth of research competence, and, thus, sustained the community's existence through their regime of competence. Nevertheless, such boundaries can limit PhD candidates' access to the research community of practice, such as when the academic culture of rejection heightens their feelings of inferiority. As demonstrated by Corcelles et al. (2019), PhD candidates have both positive and negative experiences related to doctoral study conditions. Geschwind and Melin (2016) found that PhD candidates at a multi-disciplinary research school experienced tensions in the relations between their thematic discipline-based supervisors at the department and other professors at the multi-disciplinary research school as they had to relate to both type of supervisors. Lam et al. (2019) demonstrated how personal epistemology was fostered through collaboration in PhD programmes.

Achieving autonomy was a driver. Thus, achieving autonomy was a critical aspects as it can also be understood as a boundary object in the PhD candidates' development of professionally relevant, practice-near research competence in the fields of health, welfare and education. Wenger (1998) states that being in a transition between different communities of practice requires boundary objects to legitimate peripheral participation. Boundary objects are 'forms of reification around which communities of practice can organize their interconnections' (Wenger 1998, 105). By achieving autonomy, it became possible to contribute to advancing professional practice, including validating professional practice and benefiting professional practitioners and service users. Conduction professionally relevant, practice-near research allows PhD candidates to independently address their practice-based research challenges and encourages them to achieve their purposes, which are beneficial for the future. Achieving autonomy required the PhD candidates' personally chosen purposes to be strong not to be undermined in such a way that would have made it impossible for them to continue to obtain competence deemed worthy of fully engaged membership in the research community of practice. Lave and Wenger (1991) state that pursuing a purpose over time develops competence to which it is possible to be accountable. Research has previously underlined the importance of being trusted with a degree of autonomy to promote the development of competence (Eraut 1994; Fillery-Travis and Robinson 2018; González-Ocampo and Castelló 2018). Other PhD candidates also appreciate the feeling of not being forgotten when their choices and points of view are treated with respect (Brew, Boud, and Un Namgung 2011; Mantai 2017) or they experience success in making contributions to or impacts on a field (McAlpine and Amundsen 2009; Murakami-Ramvalho, Militello, and Piert 2013; Sandberg 2016). Furthermore, a feeling of pleasure seemed to be

crucial for the PhD candidates when they purposefully worked to meet the expectations of other researchers and conduct research intended to advance professional practice. Pleasure associated with conducting research has also been previously documented (Archer 2008; McAlpine, Amundsen, and Turner 2014). According to Wenger, experiences of pleasure can be considered an expression of ‘the life-giving power of mutuality’ and is ‘the essence of apprenticeship’ (1998, 277).

Implications

The study’s results have relevance for educating a new generation of practice-based researchers. The PhD candidates seem to have a difficult task and need support to gradually becoming skilled and recognised due to diverse knowledge and capacity for analytical judgement as professionally relevant, practice-near research within the complex multi-professional fields of health, welfare and education. One specific responsibility of doctoral education might be to organise a formal forum where PhD supervisors and partners (i.e. leaders) in the fields of health, welfare and education discuss how they can support PhD candidates who experience a loss of prestige when they start to work with research. It can be crucial to appreciate the impact of the struggles that occurs when PhD candidates relinquish their high status within the professional practitioner community. The competences constructed within different communities of practice need to be integrated to balance expectations between academia and practice.

Another specific responsibility might be to appreciate that achieving autonomy within the research community of practice served the PhD candidates well. As competence does not rest within the individual, acknowledgement and maximising interactions and collaborations between the PhD candidates and doctoral education can contribute to bridging between competence as a professional practitioner and a practice-based researcher. Particularly, supervisors at multi-disciplinary research schools should be aware of this need (especially related to boundary objects as scientific writings) and understand how to adequately guide PhD candidates in their development as professionally relevant, practice-near researchers towards full participation in the researchers’ community of practice.

Nevertheless, this study leads to a further question of how other PhD candidates within the fields of health, welfare and education develop practice-based research competence more explicitly connected to boundary objects, and this question needs to be elaborated in the future.

Conclusion

The achievement of autonomy to advance professional practice as a PhD candidate cannot be too strongly emphasised; it is a critical aspect of the development of research competence, particularly when candidates with professional backgrounds have relinquished their high professional status to become researchers specialising in professionally relevant, practice-near research. Relinquishing status was another critical aspect associated with struggling as a relatively non-skilled researcher, highlighting the relevance of considering requirements or boundary objects for bridging the gap between being a skilled professional practitioner and a skilled practice-based researcher.

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