


Interacting Logics of Learning and Knowledge in Elderly Care

Britta Møller¹ 

Anne-Birgitte Nyhus Rohwedder¹ 

¹ *Aalborg University, Department Culture and Learning,
Kroghstræde 3, 9220 Aalborg Ø, Denmark*

This article explores the interaction between understandings of learning, knowledge, and problems in elderly care. The study is based on five focus group interviews with care work trainees, internship supervisors, and care workers in Danish nursing homes. Combining Ellström's understanding of learning logics and Dewey's understanding of knowledge forms, the study finds that reproductive learning and theory-based knowledge are privileged over developmental learning and experience-based knowledge. As the analysis shows that some tasks in care work require complex problem solving, the article discusses the problematic nature of this imbalance. We argue for more attention to be paid to the developmental learning environment, with the inclusion and qualification of experience-based knowledge. The article proposes a model for analyzing links between learning, knowledge, and problem understandings, and discusses the implications for understanding quality in elderly care.

Keywords: Learning logics, care work, knowledge, quality, complexity

Introduction

This article addresses a significant societal issue within the welfare state concerning the question of quality in elderly care and argues for a need to readdress the notion of quality considering the ways in which learning logics, forms of knowledge, and problem understandings interact.

All over Europe, the elderly care sector is strained by the consequences of financial constraints and struggling with a shortage of healthcare workers. The sector is challenged by an aging population and a growing number of elderly people in need of complex care (Ellström & Ellström, 2018; Hansen & Vedung, 2005; Stolee et al., 2005). In Denmark (as in other Western countries), the state has sought to manage the complexity and

regulate the quality of elderly care by importing New Public Management (NPM) strategies. NPM is evident in elderly care in the standardization of care as catalogues of caregiving services and the formal documentation of specific care deliveries (Dahl, 2009; Ellström et al., 2008; Kamp et al., 2013; Villadsen, 2022). In addition, the discourse on person-centered care has placed the needs of the elderly at the center of care personnel's attention as a crucial indicator of care quality. Consequently, the care worker must meet the double demand of working in a person-centered way and simultaneously following regulated standards of quality (Ellström et al., 2008). According to Dybbroe (2008), these contradictions are becoming so fundamental that they exclude experiences and knowledge from practice and deconstruct space and time for learning.

To date, little is known about the characteristics of learning in elderly care and how it is linked to the notion of quality (Møller et al., 2021; Ellström et al., 2008; Furåker and Nilsson, 2010; Westerberg and Hauer, 2009). The rather limited amount of international research concerning learning in care work seems to encompass two diverse bodies of studies. First, we find studies investigating specific educational programs and concepts (e.g., Elliott et al., 2012; Dugstad et al., 2019). Such studies mostly consider learning as “something” taking place in settings away from the workplace. The primary object of these studies is learning as the subject of implementing ideas and concepts from outside experts or top-down-initiated competence development strategies relying on formal teaching methods (Dewing, 2010). Second, we find a body of studies emphasizing a practice-learning perspective (e.g., Ellström et al., 2008; Dewing, 2010). Yet these practice-based perspectives are scarce in studies of care work. The process of learning in these studies “takes place” in everyday working situations. In this latter line of work, Ellström et al. (2008) indicate that it is not learning *per se* which is excluded in the field of elderly care. Rather, “reproductive learning” seems to be the privileged logic of learning in elderly care (Ellström et al., 2008). According to Ellström, reproductive learning is the mastery of familiar tasks, situations, or methods in an efficient, reliable, and stable task performance (E. Ellström & Ellström, 2018). This logic entails learning “a certain way of working” as it appears in prescribed routines and standardizations.

However, in line with Ellström, this study finds this imbalance problematic, as *some* tasks in care work require complex problem solving. Complex problems can be denoted as wicked problems that are unique and characterized by interactions and

interdependencies and cannot be understood without knowing about the situated context (Rittel & Webber, 1973). In contrast to simple problems, wicked problems are not amenable to objectively true-or-false or good-or-bad solutions, as there are no predictable best solutions (Rittel & Webber, 1973). Instead, the judgement of what is good or bad is open to social interpretation (Le Fevre et al., 2019). While the problem types are analytic categorizations and are not distinctly separate in real-life situations, care work demands a skillset that encompasses both simple and complex problem solving. Consequently, care workers need to alternate between familiar, simple issues *and* emergent, complex problem scenarios (Ellström et al., 2008; Szebehely, 1995). In other words, care workers need to act in line with the preeminent procedure-oriented standardizations relating to knowledge outside the care situations while at the same time adjusting their theories, ideas, and actions to the changing needs and preferences of the elderly person (Furåker and Nilsson, 2010; Löfström, 2013).

To readdress the notion of quality, the current study seeks to understand more about the interactions between learning, knowledge, and problems within elderly care. The study is guided in this investigation by this research question: *What characterizes the logics of learning in elderly care, and how do different logics of learning emphasize distinct forms of knowledge and problem solving in elderly care?*

The article is structured as follows. First, we present the methods used to produce and analyze data. We then turn to the theoretical perspective of learning logics based on Ellström's conceptualization of reproductive and developmental learning. To extend this pool of knowledge, the learning logics are tested as an analytic framework in a Danish elderly care context. As the analysis points to different types of knowledge embedded within the logics of learning, we add Dewey's distinctions of knowledge forms as a theoretical lens. We construct "knowledge" as either an *a priori* or an experience-based form of knowing. The analysis leads into a discussion of the link between the nature of problem solving, learning logics, and forms of knowledge appearing in care work. Finally, we conclude and point to practical and research-related implications, namely the implications for understanding quality in elderly care.

Method, data, and analytic strategy

The study is based on a pragmatic methodology (Alvesson & Kärreman, 2007; Clarke & Visser, 2019). The empirical data were obtained by conducting five focus group interviews (FG). The aim was to generate insights from a group of participants with relevant experience concerning learning in elderly care. The interviews were conducted by the first author as follows: Two FGs with three care work trainees (CWT), two FGs with three internship supervisors (IS) and one FG with two care workers (CW) - a total of 14 participants (12 female and 2 male) from nursing homes from three different municipalities. Supervisors and trainees were recruited through gatekeepers (educational consultants) in the municipalities, while the care workers responded to a social media call. As we struggled to recruit care workers (they claimed not to have time during work; the two included offered their spare time), the perspective of the care worker might seem underrepresented. However, the supervisors are also trained care workers, and the trainees are care-workers-to-be.

Each FG lasted one hour. Our aim was to promote interactions between the group members to generate a deep and nuanced understanding (Tritter & Landstad, 2020). The FGs were audio recorded and transcribed verbatim by first author. To ensure participants' anonymity, gender and names are omitted. Abbreviations are used according to the order in which the participants appeared in the interviews (e.g., CW1), and to the order in which the interviews were conducted (e.g., FG1). Direct quotations are used as exemplary statements for the data material to support the analytic argumentation.

As an essential part of the process of discovery, we conducted a workshop with 12 professionals from the empirical field, representing different professions, organizations, and degrees of experience with the phenomenon of learning in elderly care. At the workshop, we presented and discussed our preliminary codification from an initial inductive process of analysis (Boolsen, 2020). Scientifically, we regard the workshop as an arena of communicative validation (Krogstrup & Kristiansen, 2015) that facilitated a dialogue inquiring into different interpretations of our preliminary findings.

The workshop dialogue inspired us to address the notion of quality in elderly care in a learning perspective and helped us clarify the research question and the unit of analysis. Consequently, we revisited the literature and empirical data, guided by the research question. A systematic re-reading and line-by-line condensation of the

transcripts were conducted, informed by deductive and inductive categories. First author drafted the first version of these distillations, and in collaboration we discussed and modified the categorization and reviewed the abstractions until we reached consistency. In collaboration, we selected significant quotes used in the analysis.

This kind of scientific process is referred to as abductive reasoning and is the pragmatic research process of discovery (Brinkmann, 2014; Levin-Rozalis, 2010). The process of abduction is described as an interplay between empirical data and theory, and as the researcher's construction of mysteries calling for further investigation (Alvesson & Kärreman, 2007; Møller, 2022). At first, we had difficulty understanding the logics of learning as they appeared in the empirical data. To understand more, we drew on Ellström's concepts of learning as reproductive and developmental (Ellström, 2001, 2005). As the analytic part of the article will show, the empirical data called for further interpretation, and we turned to Dewey's perspective on knowledge forms (Dewey, 1929) to solve the puzzling mystery of the interactions between learning and knowledge.

Two types of learning to care

Per-Erik Ellström (1947-) is well known for having developed a distinction between two types of learning – reproductive and developmental learning – as a lens for use in analyzing complementary aspects of learning at work (Ellström, 2001, 2005). Together with Eva Ellström (1949-), he has applied this lens to the context of elderly care (Ellström et al., 2008, 2014; Ellström & Ellström, 2018).

As professional work entails the need to move between routine and non-routine work, Ellström (2001) points out that organizational learning cannot be handled in either a reproductive *or* a creative mode of learning. These modes involve two logics that are complementary, and both are represented and necessary. Ellström relates reproductive learning to the handling of specific, given tasks and the improvement of routines and task performances (Ellström, 2011). The primary object of reproductive learning is the formation of competencies for handling familiar tasks and problems that reappear frequently. This means that learning entails minor adjustments of actions to follow and reproduce existing norms, social practices, and organizational routines (Ellström, 2011).

Developmental learning, on the other hand, refers to more radical changes that involve the questioning of working conditions and definitions of problems and the

exploration of new, creative ideas as to how to react to these (often complex) problems (Ellström, 2011). This means that learning entails reacting to changing conditions or transforming the conditions themselves to create new, innovative solutions (Ellström, 2011).

The existing structural conditions constrain and enable the learning potentials at any particular point in time depending on the conditions and expectations in specific situations. These conditions shape the learning environment by establishing a certain interaction between logics of reproduction and development (Ellström, 2005; 2011). As Ellström (2001) states, however, one logic – usually the reproductive form – is often dominant, and the other – often the developmental – is relatively little in evidence: “One of the problems, though, is that individuals and organizations tend to get caught in an adaptive mode of learning” (Ellström, 2001).

Learning logics in the context of elderly care

The theoretical distinction between reproductive and developmental learning, as presented above, is generally used as a framework to analyze learning in workplaces. Even though it is still not common, a few studies apply this analytic lens in the context of elderly care (e.g., Ellström et al., 2008; Ellström, 2014; Ellström & Ellström, 2018). Considering the complex character of care work, Ellström et al. (2008) point out the importance of care workers being able to alternate between a reproductive and a developmental mode of learning. In continuation of this statement, Ellström et al. (2008) problematize the result of their study, showing that the working conditions and learning environment in elderly care (enforced by NPM strategies) tend to promote reproductive learning at the expense of developmental learning. Across the studies referenced above, we find that the reproductive logic of learning seems privileged in the Swedish elderly care context, and we consequently interrogated our empirical data to see whether the same can be found in a Danish context. In a word, the answer is yes.

We recognize the logic of reproductive learning in our data in two different ways. One we found in situations characterized by simple problem solving calling for technical nursing skills (such as medication dosing or blood pressure measurement - even though we reckon that these tasks *can* be complicated). The action in these situations relies on

stable task performance; in fact, the care workers depend on knowledge-based procedures and instructions to do things right. As a trainee says:

We have a resident who has a stoma. A lot of the permanent staff haven't had the opportunity to be trained in ostomy yet. So, I have passed on my knowledge to the permanent staff and have been able to show them, guide them, and tell them what to do. (CWT3, FG1)

In this case (and as found broadly in our data material), efficient methods and knowledge are “passed on” between trainees and skilled care workers feeding the process of reproductive learning by performing the task in the right way. In these cases, the knowledge-based procedures and the more knowledgeable co-workers enforce a reproductive learning process that enhances the competence of the care workers to handle routine tasks. Also apparent in this quote (and in several others) is an inverted learning logic in which the regular staff member learns from the trainee who is normally supposed to learn from them.

Second, we recognize the logic of reproductive learning within the informants’ overall description of care work. Work at nursing homes is generally described as a practice of routines where work is adjusted according to procedures and frameworks for certain ways of working prescribed in the standardizations. A care worker describes how she must adjust her practice according to knowledge given by “experts,” in this case a dietitian:

I also think I learn a lot when we have meetings concerning a resident. We write to her [the dietitian] if there is something we should know, and then she answers and otherwise she comes to follow-up meetings. For older people the weight can be OK one day and then very low soon after. This way I get some knowledge about nutrition and diet, which I have not gained as much of through my training. (CW1, FG5)

The quote indicates a process of reproductive learning, improving the routine work of care through learning something new and learning it from those more highly trained

through interdisciplinary learning. In contrast, another care worker expresses the perception of routine work as a non-learning arena in which things are done as usual:

I don't think the experienced care worker learns that much, because we base our work on what we usually do. Even though we must constantly read up on the daily reports and reflect on them, some colleagues just run on their sheer routine. (CW2, FG5)

This quote (and similar data) sheds light on the interactions between learning and daily routines. Here, the care worker states that they might not learn much in or from the daily routines if they do not reflect on the daily reports or refine their practice. On the other hand, the daily routines *could* be guided by a formerly reproductive learning process, securing a certain level of quality.

The above analysis indicates an empirical link between the logic of reproductive learning and the nature of simple problem solving. Even though care workers often face complex care situations, the logic of developmental learning is primarily apparent in our data as something the informants describe as being absent and reserved for trainees, meaning that trainees are expected to explore situations and develop new ideas as to how to meet residents' care needs. A trainee tells us how she had (despite her colleagues' opposition) tried different approaches over a long period until she succeeded in meeting the resident's care need (in this case wearing compression stockings):

After I had been with her [the resident] for a while, I was allowed to help her with the compression socks. She had really swollen legs, so it really hurt. It was a lot of work, and it could take some time each time, because I had to keep explaining to her why I was doing what I was doing. I then managed to get her to allow me to put the stockings on her. Finally, after a few weeks, she asked for them herself because she felt they were helping her. (CWT3, FG1)

To meet the need of the resident, the trainee developed new ways of handling the care situation. In the following quotation, another trainee tells us the same type of story, in this case a situation in which an elderly resident often calls for assistance without having an

actual physical need. The permanent staff have given up and express increasing frustration. The trainee says:

So, I thought I'd have to try it out on my own. Then I'll see how it works and then I can move on to the next time and say: "Now, I've tried it and she's responded really well to it." And she did. It reduced her calling and using the emergency call. (CW1, FG1)

The quote shows the trainee questioning the established definition of the problem, reacting to the complex situation, exploring new solutions, and, hence, enabling developmental learning.

As demonstrated above, we find that the learning logics of reproductive and developmental learning are recognized in a Danish elderly care context. Moreover, the empirical material gives rise to a mystery of the two different logics of learning seeming to emphasize distinct forms of knowledge. To elaborate on this, we extend the pool of knowledge in Ellström's theoretical framework with Dewey's theory of knowledge, as explained in the following section.

Knowledge forms

Drawing on distinctions between knowledge forms elaborated by John Dewey (1859-1952), we can nuance the analysis of learning logic. In relation to the reproductive logic of learning, knowledge can be seen as applicable to adjustments to practice. Here, knowledge is understood as captured in books, procedures, and experts as exact knowledge that can provide stable answers and guidance to practice. This is a type of *a priori* knowledge (Dewey, 1929), meaning a knowledge form that is prior to the situation, developed as predefined rules. This kind of knowledge, Dewey (1929) says, defines an ultimate and eternal reality that is believed to exist prior to the inquiry into problems encountered. It describes a reality "in itself" as an ultimate form of being and conduct (Dewey, 1929, p.14). *A priori* knowledge describes what characterizes phenomena in the world and how to react appropriately to them. The knowledge ideal is rational and contains a decisive desire for certainty. It is believed that no experience can ever deliver any truth; truth is only deliverable through reason (Dewey, 1929, p. 21).

In relation to the logic of developmental learning, Ellström (2005, 2011) addresses Dewey's concept of inquiry. Inquiry draws for guidance on another form of knowledge: experience-based knowledge. This knowledge form consists of tentative hypotheses that are based on (but not determined by) prior experiences as one aspect and imagined consequences as another. Experiences are not considered to be of higher importance than existing knowledge and thought; conversely, knowledge and thought are not believed to deliver undebatable answers. Instead, experience, knowledge, and thought are the means for intelligent actions (Dewey, 1929). This knowledge form offers the construction of hypotheses rather than descriptions of a reality. In building and testing hypotheses, theory, concepts, imagination, and ideas are *all* tools needed for inquiry, problem definition, and problem handling. Accordingly, attention is prophetically aimed towards an expected future rather than towards a prior history (Dewey, 1929, p. 63). With this knowledge form, uncertainty is considered the trigger for inquiry to reach temporary certainty.

While knowledge *per se* often corresponds to certainty, unchanging forms, and the realm of a true reality, experience-based knowledge refers to uncertainty and probability in an empirical world of change and in an uncertain future (Dewey, 1929, p. 15-17). Accordingly, knowledge is considered as either fixed, rational, and prior to any situation, or as contingent, empirical, and particular in a situation (Dewey, 1929, p. 17). Having extended Ellström's theoretical framework with a Deweyan perspective on knowledge forms, we now examine the empirical material through this additional lens.

Knowledge in elderly care

The most common description of knowledge recognized in the data material is a form of knowledge stored in books, procedures, and more knowledgeable co-workers. Commonly, when experiencing challenging, unpredictable, and uncomfortable situations, the care workers believe that they lack competencies, and they seem to trust that reading or asking a colleague about theory-based book-knowledge is the answer to the uncertainty they are experiencing. A care work trainee says:

The way it works around here is that if you run into something that you don't have the competence for or don't feel comfortable with, then of course you withdraw, but

then you read about it. Then you will be examined on it. Then you will be shown.
(CWT1, FG1)

According to the quotation, to learn you must withdraw from the daily workflow and read up on the new knowledge, after which your understanding of the new knowledge will be tested informally through questions and feedback from more experienced colleagues. This implies a knowledge form that is prior to and outside of the care situation. Additionally, you can hear about it, or have it shown to you, so that you gain from more experienced co-workers the knowledge you lack. Having said that, the care workers also find that the mass of book-knowledge is continually changing, so that being knowledgeable requires an ongoing effort. Even experienced care workers need to keep themselves updated on new theory-based knowledge in terms of both new standards of care and new ideas regarding specific tasks, and this is challenging. An internship supervisor explains:

I find that they [the trainees] think I'm a walking encyclopedia. But I'm not. I also have times when I think: "I have to go and read about this before I ...". And then, because of all the evidence-based research about, for example, catheter care, right, well, it's constantly being changed. There is always something new that is out there; they figure things out. (IS3, FG4)

The quote indicates that there is an expectation on the more experienced to act more knowledgeable, as a "walking encyclopedia." This position is experienced as difficult to handle, as the knowledge base is seen as wide-ranging, unmanageable, and ever changing. The quote indicates that new care guidelines are constantly being developed, and it is difficult to keep up with the knowledge flow.

On the other hand, talking about what we recall, our experienced-based knowledge, seems more challenging. In our study, care workers seem to lack the language, platforms, and tools to handle this form of knowledge. The challenge lies in how they can use care guidelines as triggers for the development of more informed, intelligent actions. Yet the process of learning is perceived to be a continuous affair that unfolds as one encounters various situations and problems. Asked who in the nursing home is learning, a care worker replies:

I think that all of us who walk the corridors are [learning]. I find that, no matter where I go, every day I learn something. I gain some kind of new knowledge. We also try to make sure that we don't have the same residents every day. It may not be such a big thing that I learn every day, but I think I learn something all the time. (CW2, FG5)

In this example (and in a few others in the data material), the care worker talks about gaining knowledge through experiences of everyday interactions with the elderly and by doing care work. This includes what they can learn from the elderly. It seems that the care workers are conscious of this knowledge form and the potential for learning that is accessible through their experiences and interactions. The quote shows that they deliberately plan to interact with different residents and work tasks so as to cope better, work with less monotony and enhance their learning. This care worker's attention to smaller aspects of care work (and not "big things") is apparent in several utterances. For example, a care worker says that they try to share their observations of the residents' subtle body language:

But [you] also talk to your colleagues and, like, share observations about the body language that the resident sends out. It's hard not to interpret that. To gain an aligned interpretation in the team, so it's the same things we interpret when we go in [to the resident] (...) What I see is not necessarily what you see. How can we reach an agreement, so the interpretation is the same. Then we can (...) try things out and see how it goes and how she reacts to it. (CWT1, FG1)

As experience-based knowledge interacts with complex situations and the emergence of uncertainty, the care worker acknowledges the amount of interpretation and judgement involved. They stress the need to discuss their observations and hypotheses regarding the characteristics and consequences of the situation. The call is for them to enable and strengthen their experienced-based knowledge as a tool for further inquiry. Of course, if not reflected on, this could also result in a process of verifying learning by interpersonal conformity.

In sum, to enhance the understanding of learning logics in care work, we have added the distinction between knowledge forms. We point to a link between reproductive

learning and *a priori* theory-based knowledge, just as developmental learning seems to link with experience-based knowledge.

Discussion

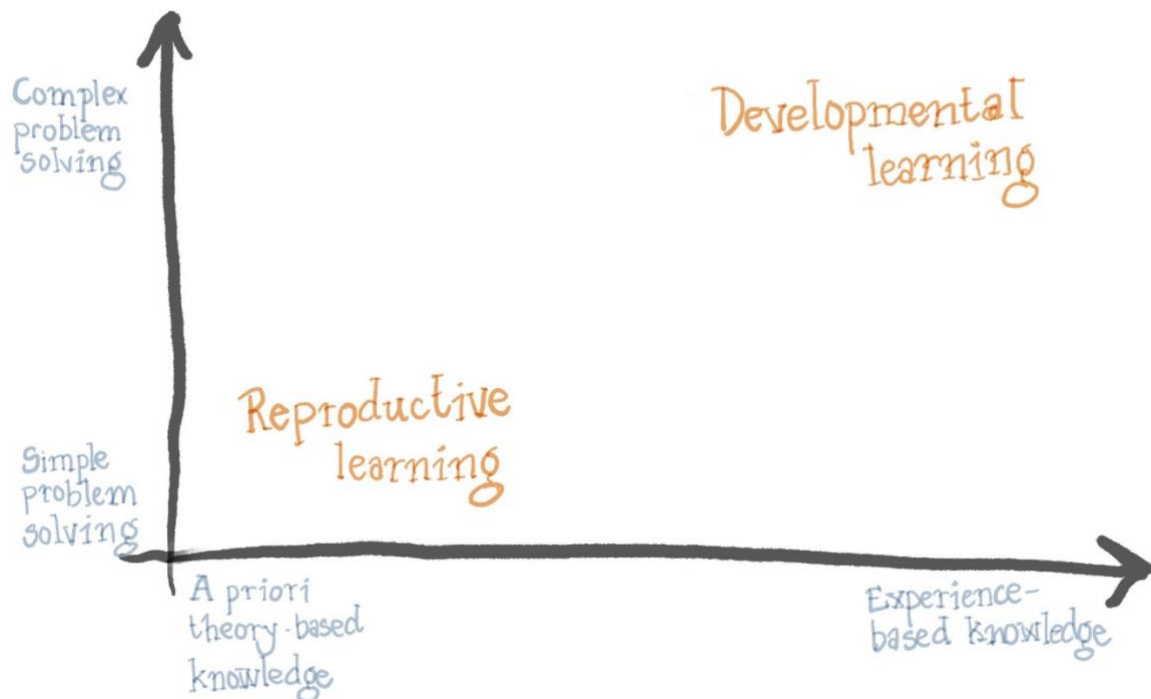
The argument of this article is for an understanding of the interactions between logics of learning, forms of knowledge, and the nature of problem solving in elderly care. As mentioned, claims are made that the demands of NPM tend to exclude space and time for learning (Dybbroe, 2008). However, in line with prior research in elderly care (Ellström et al., 2008), our analysis shows that it is not learning *per se* but a certain logic of learning that tends to be excluded, with the reproductive logic being emphasized over that of developmental learning. A more balanced approach would ensure not only that *more of the same* is done in reproducing standards in elderly care, but that attention is paid to developing the standards in everyday care. Our study, then, aligns with prior studies (Ellström et al., 2008; Ellström, 2014; Ellström & Ellström, 2019) showing that the working conditions and learning environment in elderly care tend to promote reproductive learning at the expense of developmental learning. We find that more organizational attention is given to care workers learning to perform care work in *the right way* than to dealing with unpredictable solutions. This accords more attention to the part of care work that can be handled with predefined standardized solutions to simple problems.

With the distinction of knowledge forms (Dewey, 1929), our study adds to the analysis of learning logics by stressing that the working conditions in elderly care also seem to promote *a priori* theory-based knowledge at the expense of experience-based knowledge. From our analysis, we also detect a third, dominant, “not-learning” logic which emphasizes neither reproductive adjustment according to standardizations nor developmental experimentation according to experience-based knowledge. In this not-learning logic, the care worker “does as usual” regardless of experiences, procedures, and theories. Neither experience-based knowledge nor book-knowledge are considered to be tools for adjusting or developing daily care work. Hence, there is an imminent risk of reproducing low-quality care work in unethical and crude ways.

Understanding the tasks of care work

The current study found a need to elaborate the link between logics of learning and forms of knowledge. In addition, the analysis shows that distinctions must be made concerning the different types of task to be performed in care work. One type of task occurs as simple problem solving in which clear procedures secure the best solution. To these simpler tasks, there are true-or-false and good-or-bad answers (Rittel & Webber, 1973). The care worker learns these basic tasks once and for all and can rather easily adjust their actions according to new guidelines. As social interaction is vital in care work, another type of task is more complex, as it involves social interpretations: when the elderly person refuses to take their medicine or wear compression socks, or when the interpretation of the resident's body language is crucial to communication. These tasks are unique, characterized by interactions and interdependencies, and cannot be understood without knowing the situated context (Rittel & Webber, 1973). This means that the definition and handling of these tasks cannot be performed via procedural forms of knowledge. Instead, complex problem solving is needed, and this entails enabling new experiences and different ways of thinking.

Using abductive reasoning between theoretical perspectives and empirical material, we argue that different logics of learning link with different forms of knowledge and types of task (problem solving). In the model below, we offer a conceptualization of how different logics of learning emphasize distinct forms of knowledge and problem solving in elderly care.



The model illustrates the link between simple problem solving (on the vertical line) and *a priori* theory-based knowledge (on the horizontal line) that emphasizes the reproductive logic of learning. Another link joins complex problem solving (on the vertical line) with experience-based knowledge (on the horizontal line) emphasizing developmental learning. Drawing on the empirical analysis, we argue that working conditions in elderly care not only tend to promote reproductive learning but also seem to promote *a priori* theory-based knowledge at the expense of experience-based knowledge.

Conclusion

The current study seeks to understand more about the interactions between learning, knowledge, and problems within elderly care. To investigate this, we have examined the question *What characterizes the logics of learning in elderly care, and how do different logics of learning emphasize distinct forms of knowledge and problem solving in elderly care?*

To understand the characteristics of learning logics in elderly care, we draw on the concepts of learning as *reproductive* and *developmental* (Ellström, 2001, 2005). Though we found reproductive learning to be privileged, we recognize both logics of

learning in a Danish elderly care context. Further, the analysis indicates an empirical link between the logic of reproductive learning and the nature of simple problem solving, and between the logic of developmental learning and the nature of complex problem solving. Moreover, we found that different logics of learning seem to emphasize distinct forms of knowledge. To gain a deeper understanding, we extended the theoretical framework on learning logics with a Deweyan perspective on different forms of knowledge addressed as *a priori theory-based knowledge* and *experience-based knowledge*. The most common description of knowledge recognized in the data material is knowledge stored in books, procedures, and in more knowledgeable co-workers, characterized as *a priori* theory-based knowledge. We argue that working conditions in elderly care not only tend to promote reproductive learning but also seem to promote *a priori* theory-based knowledge at the expense of experience-based knowledge.

In sum, we conceptualize an interaction between *simple problem solving*, *reproductive logic of learning* and *a priori theory-based knowledge*, along with an interaction between *complex problem solving*, *experience-based knowledge* and *developmental learning*. However, in practice it might be difficult to distinguish between the two types of problem situation and hence to create a balance in learning logics. What may seem like a simple problem could be far more complex; conversely, the more complex problems might be treated as simple due the premises guiding the care workers. Nevertheless, while the categorization of problem types and learning logics is analytic, we argue that more attention should be paid to opportunities for care workers to ensure quality by responding to complexity within the logic of developmental learning and building on experience-based knowledge.

Implications: Readdressing the notion of quality in elder care

Relating our findings to the notion of quality, we argue that the links between the nature of problem solving, learning logics, and forms of knowledge emphasize different understandings of quality and quality improvement. Since the 1980s, the elderly sector in Western countries has striven to regulate the quality of elderly care using NPM strategies (Dybbroe, 2008). Hence, increased quality of elderly care tends to mean increased standardization (Ellström et al., 2008) rather than qualifying the notion of quality experienced by care workers and within the craft of care (Lundmark et al., 2021; Romeo

et al., 2021). In fact, the management-driven attempt to secure quality could even result in a decrease in quality, as work conditions do not emphasize an experience-based approach to quality. This means that more attention is given to fulfilling protocols and quality procedures, while less attention is given to ensuring the quality of everyday care work. Often, quality is believed to be enhanced by external factors such as quality improvement strategies, educational programs, and quality improvement consultants and departments. This also means that little is known about the care home staff's ability to perform quality work in practice (Chadborn et al., 2021).

Readdressing the notion of care work implies quality improvements as a task (also) conducted *in* direct care work with quality as a focal point in everyday routines and interactions between care worker and elderly (Chadborn et al., 2021). The implication of our study is, in line with prior research (Chadborn et al., 2021), that more attention should be paid to the opportunities for care workers to ensure quality in action by responding to complexity. The response to complexity is not an individual, behavioral, and cognitive affair (Brandt & Elkjaer, 2022), meaning that complexity cannot be dealt with on an individual level, e.g., by enhancing the care worker's development of competence, as seems to be the most prevalent strategy (Dewing, 2010). Care workers must have opportunities to reflect on their experienced quality of care with colleagues, sharing experiences, exploring insecurities, and developing knowledge *in* work to develop quality improvement expertise and capacity amongst care workers.

The current article contributes to and adds to the previous research on logics of learning in elderly care already made in a Swedish context (Ellström et al., 2008, 2014; Ellström & Ellström, 2018) by combining the logics of learning with understandings of knowledge and problems, drawing on the pragmatic philosophy of John Dewey (1929), and relating to the varied complexity and understandings of quality in care work. We encourage more practice-based studies that further explore the correlation between learning logics, forms of knowledge, problem understandings, and quality understandings, and thus the potentials and limitations of our proposed model. In particular, there is a need for more studies exploring care workers' definition, experience, and assessment of quality in care. In this study, we experienced difficulty in recruiting interview participants among trained care workers, as they could not spare the time. Hence, an in-care situated methodology might be a more appropriate way to include their

experiences. The method of shadowing offers the possibility of *in situ* analysis where the researcher and care workers take part in in-the-moment interpretations of quality as it unfolds at microlevels in everyday care practices (Buchan & Simpson, 2020).

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About the authors

Britta Møller, Ph.D. in learning, studies workplace learning and education, specialized in elderly care. Britta is employed as an assistant professor at the department of Culture and Learning, Aalborg University. She is the coordinator for the Master in Leadership and Organizational Psychology and member of the research group CO-LEARN and FoCUS – a research center for education for social- and health care.

Anne-Birgitte Nyhus Rohwedder, Ph.D. in pedagogical leadership, studies learning, capacity building and leadership vocational education and training, specialized in elderly care. Anne-Birgitte has a split employment between the department of Culture and Learning, Aalborg University as an assistant professor *and* Randers Social- and Healthcare college where she is center manager for FoCUS – a research center for education for social- and health care. She is the coordinator for the Master in Pedagogical Leadership and member of the research group CO-LEARN.