

Conceptualizing Workplace Learning in Healthcare Digital Transformation

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Introduction

The digital transformation of healthcare entails changes in the IT environment, extending beyond merely learning to use new tools and systems. The introduction of new digital technologies affects the health professionals' daily clinical work and includes changes that require learning and the development of new ways of working. (Vallo Hult et al., 2021). Fenwick (2006) defines learning as a process of change that leads to actions and broader perspectives. Learning and knowing are situated interconnected processes that have been studied in practice-based studies (Nicolini et al., 2003). Professional expertise is woven into practice, changes as practice unfold, and learning emerges through changing practice (Hopwood, 2016). However, there is a need to make sense of the transformation in healthcare involving digital artefacts to achieve the desired goals (Hunter & Bengoa, 2022). This paper builds on and extends preliminary findings from an R&D project, focusing on an ongoing digitalization initiative in Swedish healthcare (Svensson & Vallo Hult, 2022). The transition to the new modern healthcare information environment is envisioned in policy and practice to provide the inhabitants with accessible healthcare with high quality and great participation. This process includes managing and organizing the digital transformation at hospitals, primary care centers and municipalities in this region. As all professions at the hospitals are affected, it is vital to understand how digitalization affects and changes their work. The project includes the management and organization of digital transformation, and the study focuses on understanding digital transformation from a workplace learning perspective. In the initial phase, we conducted a literature review and benchmarking to identify challenges and needs related to the digitalization of work and learning from a practice perspective. This included working meetings with researchers and professionals working within healthcare in various roles with responsibility for planning, implementing and developing the new health information environment. A secondary aim during this phase was to anchor the project, prioritize activities and develop the theoretical starting points of the project. Already in this early stage of the study, we have tentatively identified different types of learning, referring to fundamental changes, the creation of new knowledge structures, incremental changes in the existing knowledge structure, as well as validation and reinforcement of existing knowledge structures (Lave, 1993).

The purpose of this workshop paper is to present our initial findings, with focus on the proposed workplace learning framework and learning model (figure 1, below). We argue that the learning types need to be considered to identify in which activities different learning types are of vital importance. This aspect is also important to recognize to obtain sustainable and continuous learning in healthcare to contribute to increased patient benefit.

Workplace Learning in Healthcare Digital Transformation

The proposed model is based on the healthcare context, where leading and organizing for digital transformation has proven to be challenging (Wessel, et al., 2021), and presupposes workplace learning in hospital organizations, where different professions collaborate to exchange knowledge and experience. The professionals in healthcare work task-based, which implies professionals to both learn and unlearn, as the work will be redesigned. The workplace needs to afford opportunities for individuals to participate in learning activities through everyday participation at work, as work and learning is integrated (Lave, 1993). To engage in daily work activities means to be engaged in ongoing learning at the workplace. Guidance from leadership is a basis for how individuals and groups enact workplace learning, together with the work-related knowledge of the professionals, their values, and how they elect to engage in workplace activities (Svensson et al., 2021, Billett, 2001). Recent workplace learning literature has highlighted the interplay between innovation and learning (Billett et al., 2021), especially in the context of digitalization, and there is a need for more research that explicitly addresses digital change as learning (Vallo Hult et al., 2022). Innovation at work is premised on and contributes to professionals' learning: "there is a co-occurrence and interdependence between innovation and learning at and through work" (Billett et al., 2021, p. 222).

The proposed conceptual model

This research is based on an identified need to develop theories and models on workplace learning, and we argue that to do so, it is necessary to investigate how to provide the best conditions to bring about learning in this transformation. We need to investigate how to provide the best conditions for learning in this transformation for all the different roles. Consequently, it is essential to achieve this in the change process already during the preparation and implementation phase, and build structures and processes both between and within professions in such a way that it is maintained in the future, i.e., after the implementation from program to operation, in the short and long term. The case in this paper specifically concerns real-time documentation in healthcare in a hospital setting. The implementation of the changes in work routines and the implementation of new digital artefacts will transform the ways the professionals at the hospital conduct their work. As seen in figure 1 below, the roles are important in each of the six steps. In the exploratory phase of this project, we have conceptualized workplace learning in healthcare digital transformation in a preliminary model in which we aim to identify the different roles and tasks in each of the planned activities. We have presented the first version of the model in research and practice settings (Svensson & Vallo Hult, 2022) and further developed and made adjustments to the model based on the feedback. We have also discussed the model and its included activities with a business developer who works with digital transformation in healthcare. This feedback is incorporated in this second version of the model (figure 1).

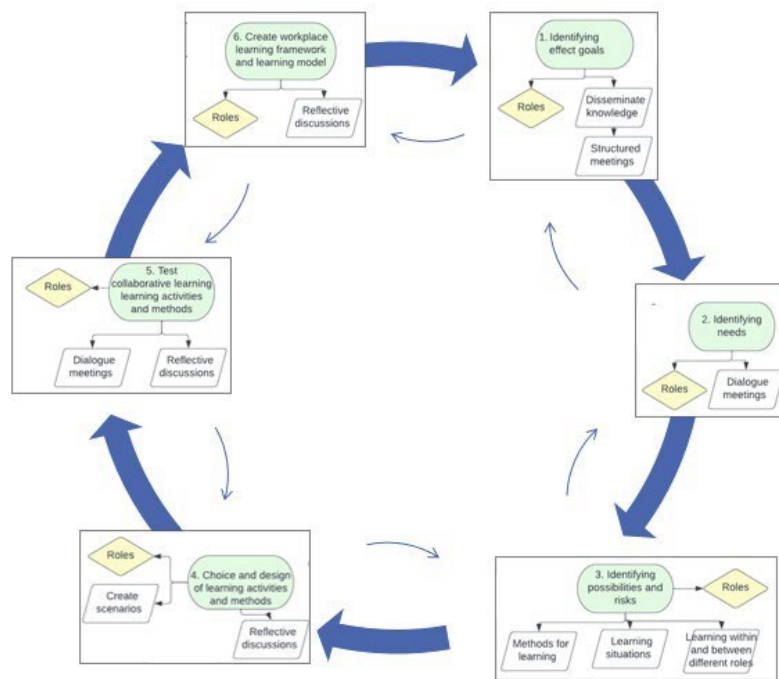


Figure 1 – Conceptual model of the six activities in the transformation process

The first activity (1) is **identifying the effect goals and disseminating this knowledge in the organization**. Here, structured meetings with focus group interviews will be conducted, where the professionals will have the opportunity to establish a common ground and get an overview of the underpinning basic principles. In this activity, the healthcare professionals are discussing in groups. The professionals are asked to consider who the stakeholders are and how to take care of everyone's wishes, needs and concerns regarding future ways of working. Real-time documentation will reduce the lead time from someone dictating a care meeting into an audio file to someone printing it and copying it into the patient record. Patients will get direct access to what was said at the care meeting, and health professionals will get immediate access to the information entered into the patient record. It will lead to work routines changing, affecting the entire healthcare system. While the overall goal is efficiency improvement, the professionals may not think about that in their daily work. Experiences have shown that if someone comes and says, "this is how we should do it" or "this is how it is," it is often not the best strategy, especially in settings like healthcare where professional autonomy is strong. Therefore, it is easier for them to discuss in groups and identify the impact targets themselves, rather than top-down.

The second activity (2) is **to identify the needs for collaborative learning**, such as where the learning takes place, who is learning in different situations, and how the learning could occur. This activity will be supported by identifying rich learning activities and situations for learning. Dialogue meetings and focus group interviews will be conducted, where healthcare professionals and researchers will reflect and collaborate democratically as peers to develop shared conceptions of rich learning activities. The learning should be based on the healthcare organization's needs to reach the objectives. In this case, with real-time documentation, many people will be involved. A large group gets rid of their main work

task, and that is the medical secretaries. Their professional identity will change completely, and this requires learning to find new ways of working. Change and learning is approached differently, and the prerequisites and incentives are different between professions.

The third activity (3) is to ***identify possibilities and risks***. Here, methods for learning will be discussed in focus group interviews, in relation to learning situations and learning within and between different roles and professionals. The risk is that those who lose their job duties will also lose their professional identity. Therefore, it is important to discuss what role and opportunities for learning they will have in the transformation. It is also about how to learn, which methods to develop, how to relearn and learn new things and the possibilities and risks. The professionals need to collaborate to know what the collaborating roles learn and what work tasks they will perform. Identifying how they can learn when different working methods change is also necessary, about changing how they work and when to make a transformation. Risk analyses are carried out, and problems that may arise are identified so that nothing falls through the cracks. The professionals must ensure that someone does what they no longer do, or will not do, in their new roles.

The fourth **activity (4) is *choice and design of learning activities and methods***. In this activity, **learning scenarios** will be created and reflectively discussed in focus groups that include healthcare professionals and researchers. The basic principles for a collaborative learning framework will be outlined. This activity involves developing different designs for learning activities, to develop learning and new ways of working. Those scenarios will be discussed in focus groups, where healthcare professionals collaborate with researchers. Advantages and disadvantages, opportunities and risks for learning in the various scenarios are discussed and documented. Based on this, concrete learning scenarios are developed and adapted to be included in the practical activities. This activity also includes discussing how to test and evaluate the scenarios.

The fifth activity (5) consists **of *tests of collaborative learning activities and methods***. This activity will focus on scenarios in everyday work. Dialogue meetings and reflective discussions in focus groups will take place to refine the learning activities and methods further. The organization can try to implement the scenarios and investigate whether it is possible to learn through planned activities and methods. They thus test the change management model the organization has arrived at by looking at it from different perspectives. If change ambassadors are used, is it, for example, a good way to appoint change ambassadors whose task is to teach their colleagues? Does it work to have dialogue meetings between the change ambassadors and those who have learned from them? These are the kinds of questions that can be asked in this activity.

The sixth and final activity (6) is to ***create the workplace learning framework and learning model***. The framework will constitute a basis for providing the best conditions to bring about learning in this healthcare transformation. It is important to establish a fairly general model for digital transformation where working methods will change radically. Learning at the workplace and how it is structured is an important part. A framework or model must be tried to determine if it works in practice. It needs to be designed to guide the organization in what to learn in each activity, respectively, and what type of learning

will come in the next activity. It is important that a framework or model has a time axis. However, it is also important that the transformation work will be iterative. It needs to be used for transformation in different work methods where digital artefacts will be used, e.g., digital care meetings, self- monitoring, speech recognition, and real-time documentation.

Conclusion and next step

A framework or model to support the digital transformation in healthcare, where working methods will change radically, is vital to inform the understanding of why the transformation will be conducted. In this paper, we propose a conceptual model with six activities that can form a basis for the transformation process in the healthcare setting. The six activities will be tested in a transformation process in the healthcare setting, where the professionals will work together with the researchers in order to learn collaboratively. This will be the next step in the creation of a model for workplace learning in healthcare.

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