ORGANIZATIONAL LEARNING REMEMBERED – TRACES OF CHANGE IN NARRATIVES, DOCUMENTS AND MATERIAL ARTIFACTS

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Introduction

In this paper, we investigate organizational learning as memory traces of narratives, documents and material artifacts of past change efforts (Kerosuo, Kajamaa and Engeström, 2005). The concept of organizational memory highlights the accumulated knowledge of an organization that can be applied in present activities (Casey and Olivera, 2003). Organizational knowledge can be observed as interwoven into organizations' products, processes, technologies, structures, culture and norms (Argote, 1999). Practice-based approaches (the interpretative-cultural approach, the community of practice approach, the cultural historical activity theory, and the sociology of translations approach) conceive knowledge as sustained by symbols, technologies and relations (Nicolini, Gherardi and Yanow, 2003). However, knowledge is understood as an ongoing social and contextual accomplishment that is constituted and reconstituted in day-to-day practices (Blackler, 1993).

Among practice-based approaches, cultural historical activity theory emphasizes the historical origins and collective accumulation of knowledge in the sense that knowledge is mediated by socio-historically evolved artifacts and social realities in human activity (Engeström, Brown, Engeström and Koistinen 1990; Wertsch 1987: 19). We trace accumulation of organizational knowledge in narratives, documents and material artifacts of past change efforts. We approach change not as a reflection of objective reality but as socially and discursively constructed and materially and socially mediated in object-oriented activity (Engeström, Engeström and Kerosuo, 2003). The traces of past change efforts are created in interactions between participants of change projects, researchers and documented change.

We have studied change efforts in eight health care projects that were carried out in the past but are still having their impact on present activity.[a] The theory of expansive learning (Engeström, 1987) was applied in every one of these projects. In the project, we have developed methods by which the longitudinal consequences of learning and diffusion of innovations can be traced and analyzed. Consequentiality and diffusion of innovations are deeply embedded in social practices and require temporal, spatial or other engagement. Implicit consequences may have significant impact on local work practices and the outcomes of learning may diffuse to neighboring work activities. Even so the longitudinal consequences of learning are not often studied and they are poorly understood in organizations. Therefore, it seems relevant to ask: How is organizational learning realized in two Finnish health care projects that were carried out in the past?

In this paper, theoretical concepts and models from cultural historical activity theory are used to study the traces and processes of change. After presenting the theoretical framework of

the study, we describe the methods of the study. In our methods, we integrate narrative approach, ethnography and document analysis in studying organizational learning as remembered. The activity-theoretically oriented ethnography guides the overall scheme of our study. We provide the examples of two change projects in order to highlight the processes of organizational learning remembered. We have chosen the cases from two parallel projects of a larger developmental undertaking in order to bring up the multi-dimensionality and complexity of organizational learning as remembered in local contexts.

Activity-theoretical framework of the study

The theory of expansive learning captures the recreation of organizational practices in processes of learning (Engeström, 1987). Organizational learning is expansive when it produces new solutions, procedures, or systemic transformations in organizational practices (Engeström, 1995). The process of expansive learning is cyclic in nature. During its course, processes of expansive learning undergo periods of stability and instability.

The transformation of activity begins with the emergence of a need for organizational learning and change. Organizational activity becomes in one way or another disturbed during need stage and members of an organization begin to question, criticize, or reject some aspects of the accepted practices. The second stage of expansive learning involves the emergence of double binds. Employees have difficulties in carrying out organizational activities properly and meaningfully. The requirements for action and the opportunities to meet the requirements are incommensurable. Impossible tasks, tensions between the relevance of means and goals of actions, rules and division of labor emerge at the second stage. According to the theory of expansive learning, double binds can be solved collectively through reflection and analysis of the situation. Analysis of double binds involves the search for causes or explanatory principles of the organizational activity. "Historical-genetic" method is used to explain the situation by tracing its origination and evolution. "Actual-empirical" method is used to explain the situation-specific phenomena. When this phase is successfully completed the newly found explanatory relationship is modeled in some publicly observable and transmittable medium. A model of the new idea that offers a solution to the problematic situation is created. The model includes the object/motive, i.e., the sense and meaning of the new activity, and its instruments. Then the new model is examined and experimented in practice in order to find out about its dynamics, potentials and limitations. After that the new model is implemented by means of practical applications. In the final phase, the process of expansive learning is consolidated and reflected in order to stabilize and maintain the new activity. The cycle of expansive learning is presented

below in figure 1. Figure 1 depicts the phases of expansive learning as well as the epistemic learning actions in an expansive learning cycle (modified from Engeström, 1987: 322; 1999: 382). Besides the large-scale transformation described above, miniature cycles of innovative learning can emerge during the large-scale expansive learning (Engeström, 1999: 384-385).

Figure 1. The cycle of expansive learning
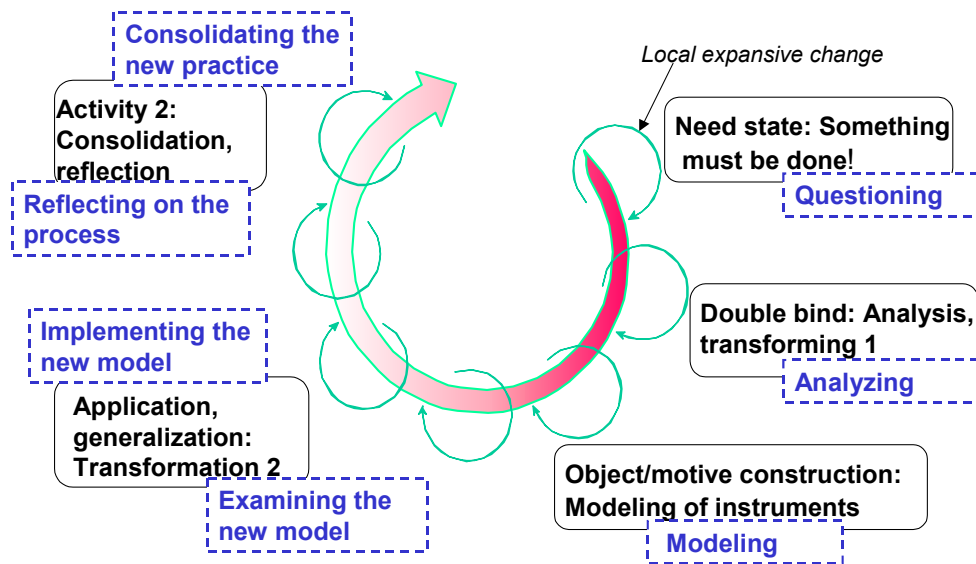
The concept of activity and practice are distinct from each other in activity theory. According to Leont'ev's (1978: 63) three-level scheme, *activity* emerges as a threefold formation: (1) collective, object-oriented activity directed by motives; (2) actions directed by goals; and (3) operations directed by the circumstances and tools at hand. These are conceptualized as "continuously proceeding transformations" between the three levels (Leont'ev, 1978: 67). *Practice* refers to action level of activity in this paper. Practice is a recurrent, goal-directed sequence of actions that are directed to socially recognized goals. The coordinated set of actions refers to skills that involve applying knowledge in a particular setting. Therefore, practice consists of technology, knowledge, and skills (Scribner and Cole, 1981: 236).

The concept of an activity involves a purposeful target called *object* that includes the collective motive for the activity (Leont'ev, 1978: 52). The object emerges when human needs and the material-cognitive formations of the world meet (Leont'ev, 1978: 54). In health care, the object and motive of an activity can be conceptualized in varying ways. It may be a somatic

disease, a consumer of health services, a patient as a psychosomatic whole, a patient's social situation, or a patient as a collaborator (Engeström, 1990: 112-116). Engeström (1987) represents 'activity' as a model of an 'activity system' that consists of the subject, object, mediating artifacts, rules, community, and division of labor. 'Activity', or the 'activity system' is not stable; it is in a constant state of imbalance because of the internal contradictions within and between its elements.

In this study, we are interested of the traces of past activities and practices in organizations. The focus of this study is on looking-back the participants' experiences and documented traces of change in the project and during its implementation. Schiffer (1999) suggests that the study of *material traces* renders it possible to make conclusions about past activities. For instance, in archaeology conclusions can be made about cookery by tracing chemical and physical particles on the surface of cooking utensils, or by making observations about the location of utensils in a particular research site and of items discovered together. In other words, traces refer beyond themselves (Derrida, 1973: 156). However, while dislocating, displacing and referring beyond themselves, traces are also part of the present. Presence is, therefore, a synthesis of absence and presence, a generalized form of "writing" as expressed by the French word *écriture* that simultaneously expresses both "writing" and the "written" (Derrida, 1988). Hence, the challenge in this study is to find a social and cultural connection between the traces and social practice of the past and the present.

Methods of the study

Deriving from separate origins, the integration of ethnography and narrative approach involves according to Gubrium and Holstein (1999) a promising challenge for qualitative researchers. In this study, we make good use of these ideas uncovered by the integration of ethnography and narrative research. Integration of narrative and ethnographic methods in this study means, "moving between" narratives and ethnographic methods in data collection and analysis.

Narrative analysis focuses on the examination of diverse stories, commentaries and conversations engaged in everyday living. We use narrative approach in data gathering as well as in the data analysis (Czarniawska, 2004). Narratives are devices in understanding human action (Bruner, 1986; Middleton and Edwards, 1990). People create narratives to structure past experiences. Narratives are embodied with experiences and feelings (Middleton and Edwards, 1990). Remembering as a social action is often carried out in narrative form and knowledge is mediated through narratives in organizational world (Czarniawska-Joerges, 1995).

We consider narratives as acts of remembering and see them as representations of organizational memory (Kerosuo, Kajamaa and Engeström, 2005). We do not assume that narratives carry the truth, or true experience of what really happened in a change project. In interview situation interviewees narrate their experiences and stories of change, development and learning. We see narratives as creations of the interviewees and narrating as a communicative act that links an individual and organizational narratives as well as a researcher to interviewees. Narrating involves changing temporalities. In our study, narrators stepped back and forth between past, present and future in their acts of remembering. The acts of remembering are interconnected and mediated by socio-cultural artifacts such as different spaces and written documents (Engeström et al., 1990; see also for instance Rier, 2000; Radley and Taylor, 2003). In our study, for instance, narrators pointed at work premises during an interview that were changed in the development project.

Ethnography refers to a careful and long-term observation of a group of people or 'culture' with the aim of revealing the social patterns of day-to-day living of a group. Our approach resembles the "rapid methods" of applied ethnography 'in which long-term field presence is replaced by brief ethnographic "visits" to solve particular research problems posed by an ongoing research projects' (Chambers, 2000: 863). Rapid ethnography is often carried out in collaboration with participants and those involved with a particular field. In activity theory, ethnographic methods have been used in fieldwork and in descriptions of the field of study. Recent approaches (Hasu 2005, Saari 2003, Hasu, Helle and Kerosuo, 2005) have questioned the self-evidence of earlier ethnographic approaches and concepts such as the practice of fieldwork, the concept of the field, the researchers' position, participation of the research subjects and temporality. These recent approaches act as basis for the method of tracing in this study.

In this study, the traces of past change efforts are investigated ethnographically in documents and material artifacts and by observing present activities. The method of tracing involves the experiential, interactive and material constructions of change that a researcher experiences and seeks to find out in a research site (Kerosuo, forthcoming). Documents can be both textualizations of organizational activity and textualizing of that activity and practice (Iedema, 2001). Hence, documents can act as containers of organizational activity and the documents in use (Prior, 2003). With the document analysis it is possible to fill the gaps in the narratives. Therefore, narratives are studied as embedded in their context by focusing on "how 'objectivity' is construed, achieved and contested" in its historically derived connection (Iedema and Wodak, 1999: 12-13). The various layers of change are traced in documents, material

artifacts such as work premises and maps. Locating documents can be revealing since some documents can be stored in stockrooms while others are available in coffee rooms or personal archives in offices. The investigation of documents and material artifacts includes the temporalities of the past, present and future that emerge as intertwined in practice. The "tradition sources" of the unfolding events are investigated in present (Hyysalo, 2004: 48).

Recently, ethnographic methods are extending their research interest from local approaches into larger contexts on regional, national, and even global events (Chambers, 2000: 858). In our study, the local processes were linked to decisions and trends on the regional and national level. New logics of activity and rules have influence on local practices. Figure 2 presents the overview of the methods and their inter-linkages in the study.

Figure 2. Overview of the methods and their inter-linkages in the study
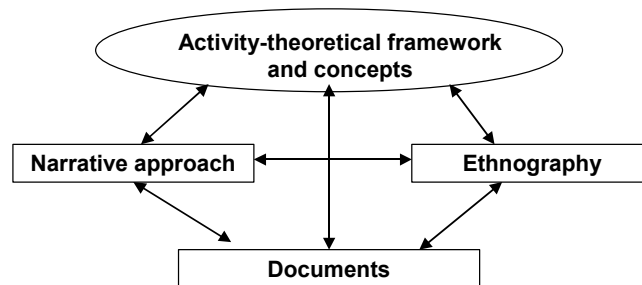
The activity-theoretically oriented method of this study moves between inductive and deductive analysis. While traces of organizational learning and change are searched inductively in narratives and documents, we also challenge these findings deductively with the following heuristic concepts that capture the process of expansive learning in more detail.

The concept of *anchoring* investigates the permanence of change that can be traced as "anchoring-up", "anchoring-down" and "anchoring sideways." "Anchoring-up" means integrating changes into plans and practices of the management. "Anchoring-down" means

implementing changes into everyday work while "anchoring sideways" means gaining support for change among co-operative partners, customers and other agents in the field.

An essential prerequisite for organizational change is that powerful individuals become change agents and a sufficient number of members of an organization become e*ngaged* in organizational learning processes. *Resistance* is often considered to be an opposite of engagement, as resistance to change prevents development and learning. However, Kindred (1999) asserts that resistance in learning is not only an opposing force, but also an exploratory path that generates learning. The "foreign" or "unknown" must become mine to be appropriated, and this means, "biting the new." In addition to open objections, resistance may also be silent in workplace behavior (Kindred, 1999).

Organizational learning needs to be *stabilized* in order to be sustainable. Stabilization of organizational learning refers to acknowledging and supporting change with the help of technologies, economical investments, rules and norms as well as division of labor.

Destabilization involves the opposite, i.e., deflecting a change. Destabilization occurs typically when a change is about to become stabilized.

Maintenance in organizational learning means up-dating, fixing, checking up and supporting a change. Maintaining organizational learning is often invisible. Lack of maintenance emerges as degradation.

Cultivation and degradation refers to re-figuring organizational learning and change instead of simplifying change. During cultivation a change becomes redefined and enriched.

Degradation occurs during lack of maintenance and cultivation. It means simplifying and undressing the change.

Data and the fieldwork of the study described

In this paper, the organizational learning remembered is investigated in two cases of a *Working Health Care Center* project. "Working health care center" project was a large-scale project in which Finnish health centers developed their activities during 1990-1993. The aim of the project was to improve the continuity of patient care and patient-centeredness in local health care clinics. At the beginning of the project, the care provision was organized around single patient visits with changing providers. A population-based organization, multi-professional teamwork and a new practice supporting patients' self-care of illnesses were adapted as solutions to the discontinuity of care relationships in the project. Some health centers were also implementing new computing systems during the project. The "Working health care center" project had five

project areas in which the health center work was approached with different insights in 21 sub-projects (Engeström, Saarelma, Launis, Simoila and Punamäki, 1991).

The project used the framework and the method of expansive learning in developing health care activities (Engeström, 1987). Activity systems were used in the analysis to form a bridge between an individual and society while the cycle of expansive learning was applied in the analysis of development and learning in health care centers (Launis, Simoila, Saarelma, Punamäki and Engeström, 1991). During the project, the historical analysis and the actual empirical analysis of the health care centers were conducted. The historical analysis of expansive learning traces the developmental dynamics of an organization while the empirical analysis investigates troubles, disturbances, and disruptions of the activities of day-to-day work. The future directions and visions of the activity are set on the basis of these analyses.

The cases selected for the analysis in this paper represent examples of two sub-projects of the "Working Health Care Center" project. The sub-projects resemble each other in terms of their content and the process of organizational learning. However, differences also occurred during the process of organizational learning. The sub-project described in Case 1 was carried out at one health clinic of a larger organization, i.e., a health-care center while the whole health care center was involved in the second sub-project described in Case 2. Two members of the research group gathered the data with similar methods. Anu Kajamaa[b] did the data gathering for Case 1 while Hannele Kerosuo conducted Case 2. Table 1 summarizes the data of study.

Table 1. The data of the study

Case	Number of interviews	Documents collected during Archeological ethnography	Other Ethnographic data
"Working health care center" – project in health center one	10	Annual reports, employees' notes, project reports	
"Working health care center" – project in health center consortium	11	Annual reports 1991-2002, annual plans 2003-2007, legal records, employees' notes, project reports	Observations of the activities and premises, digital photos, and maps.

In Case 1 three representatives of middle and upper management and seven employees were interviewed and in Case 2, five members representing upper and middle management and seven

employees were interviewed. In both of the cases two employees were interviewed as pair and the rest were interviewed individually. In both of the cases each interview lasted approximately one and a half hours. The interview questions were semi-structured and the interviews invited remembering related to change. The interviews consisted of the following themes: (1) the starting points of the development project, (2) the proceeding of the development project in practice, and (3) the results and consequences of the development project. The interview situation varied depending on the interviewee. Some interviews were more like story-telling in which the interviewee quite independently structured the story while others were more like interviews in which the researcher asked questions and the interviewee answered them. A research assistant who was not otherwise involved with the project transcribed the interviews.

The document data includes documents about the change project and larger organizational context. There were annual reports, annual plans, legal records, project reports, employees' notes, and project-meeting memos. The documents completed the interview data in terms of the change project and the local context. The researchers had an opportunity to make observations of the work premises during the visits to the research sites.

During the fieldwork, we collected documents and material artifacts that related to change projects such as memos of working groups and documented analytical tools such as representations of expansive cycles and activity system. We asked the interviewees to bring their personal memos and documents to the interviews. The documents in storage rooms needed digging up as layers of change that were removed from the present day activities. For instance, some documents were archived in an unofficial storage room that was filled with folders in Case 2. The collection of documents involved working at the storage room, finding and copying the relevant documents. We also asked the participants to give or point us the meaningful documents and material artifacts. We took notes from each research site after being there. In the notes we described the site, the interviewees and the interviewing situations and the feelings we had. We also took videos and digital pictures from the research sites and material objects that seemed important from the perspective of change.

The actual fieldwork has a step-like-character. We "move between" narration and ethnographic observation in data collection and analysis. Participants' narratives pointed to us what has been meaningful for them in the change project. Then we investigated the events, documents, or material traces that have been pointed to us. In some cases, a narrator uses the documents or material artifacts during an interview making the interview to expand from personal memories to materialized objects. For instance, the physical pointing and nodding

towards the investigated working premises gave us information about the organizational learning that are captured to material artifacts.

Steps of the analysis

1. Identifying narratives from the data

First we started to identify the narratives about change and learning from the data. Researchers from different fields can carry out the process very differently and emphasize different kinds of plots. We used Mishler's (1986) four categories in extracting the narratives. Those categories include 1) an orientation that describes the setting and character, 2) an abstract that summarizes the events or incidents of the story, 3) a complicating action that offers an evaluative commentary on events, conflicts and themes, and 4) a resolution that describes the outcomes of the story or conflict. We wrote short summaries of each plot we considered essential.

2. Constructing a story-map

We named the summaries of the stories and started to place them into a map structure. On the story-map the main-plots and some sub-plots are represented. Narratives must always be plotted and researchers from different fields carry out the process and interpret plots ambiguously (Czarniawska, 1998). We then started to draw connections between the plot-types. The story-map can be considered as an intermediate research result that is used as an analytical tool in the proceeding analysis.

3. Drawing map of the overall view of change

The document analysis included the content analysis of the organizational context and the functioning of the organization during 1989-2004(2007). In practice, the content analysis was carried out by creating matrixes based on the main characteristics of the organizational context to be further described in section of the findings. With these methods we could reach the temporality of change projects and we could fill the gaps in the interviews.

4. Ethnographic analysis

The analysis of narratives was complemented with ethnographic methods involving the analysis of paper trails and material artifacts. The analysis of paper trails had overlaps with the document analysis. We did participatory observations and photographed and videotaped the contexts and employees ways of working today. The narratives of change and learning materialized during the participatory observation and the consequences contextualized into practice.

5. Modeling organizational change efforts and learning

We then conceptualized the change projects by analyzing the different change narratives with activity-theoretical models a variety of conceptual tools and. We used the cycle of expansive

learning in the analysis of the process and dynamics of organizational learning. We had predefined concepts such as *anchoring, engagement, resistance, stabilization, destabilization, maintenance, cultivation,* and *degradation* (see Methods section of this paper for definitions). The conceptual tools are heuristic concepts and explorative in nature. The aim in this part of the analysis was to provide knowledge about the processes and dynamics of organizational change efforts and learning.

Findings

Our findings show that developmental projects have produced significant changes in the researched health care organizations. After years the projects have facilitated changes in the structures of the health care organizations, they have influenced the employees ways of working, they have improved the employees possibilities to contribute more to they own work, they have supported the organizations development in general, and they have also generated other development projects. Next, we will present our findings of the case examples in more detail. At first, we will give the general overview of the organizational change in Case 1 and Case 2. After that, we will depict the organizational learning in both cases.

### *General overview of the organizational change in Case 1*

The first case example described here is "Working health care center" project that was carried out in a clinic of a health center in Northern Finland in 1990-1993.[c] In 1980s, the health center operated as a sector organization and its health care and social service units had an administrative subdivision. In the early 90s, the health centre started to get patients with complex, multiple illnesses that needed services from various occupational groups. The sector organization started to become inflexible and did not support care that needed collaboration between healthcare and social work. The health care management of the centre believed that involvement in the nationwide "Working health care center" project could provide support for the heath center on the threshold of large-scale organizational changes.

The aim of the "Working health care center" project was to shift from the sector organization to a model of multi-professional teamwork and population –based care. The project work was multi-professional and one clinic of the health center participated. The main object was to develop the employees' ways of working to provide care that is comprehensive and successful. The care was planned in the project on the basis of the needs of the customers, and on the basis of the prevention of illnesses. The area was divided into seven units so that the workers located in each territory took care of the patients there. Multi-professional teams were

created in each area. Another field of development in the "Working health care center" project was computer systems.

At first some of the workers resisted the idea of multi-professional teamwork but however the teams started to mature little by little. The idea of multi-professional teamwork was altogether implemented inconsistently. Some teams started to develop more collaboration than others. The implementation was dependent on individuals and some were more enthusiastic than others. The idea of population-based care and personal-doctor practice with a new rewarding system was conducted 1997-1998. The population is listed to a certain doctor in the "personal doctor" model with the idea of improving the continuity of care for individual patients. In the new system, doctors started to get more money, which created dissatisfaction among the nursing staff. The organizational structure of the health center was changed back into sector organization in late 1990s. The structural change effected on the maintenance of the multi-professional teamwork. One of the teams has, however, maintained the idea of multi-professional teamwork and seems to benefit from it. The management of the health center has also started to support team meetings again in order to improve collaboration between health care and social work. Our interpretation is that the idea of multi-professional teamwork could have been in advance of one's time in early 1990s and the employees have now realized that collaboration with other occupational groups is needed because of the complex, multiple types of problems that the patients often have. Figure 3 presents the map of the overall view of change in Case 1. Figure 3 is based on the narrative and ethnographic analysis of the data.

Figure 3. Map of the overall view of change in Case 1
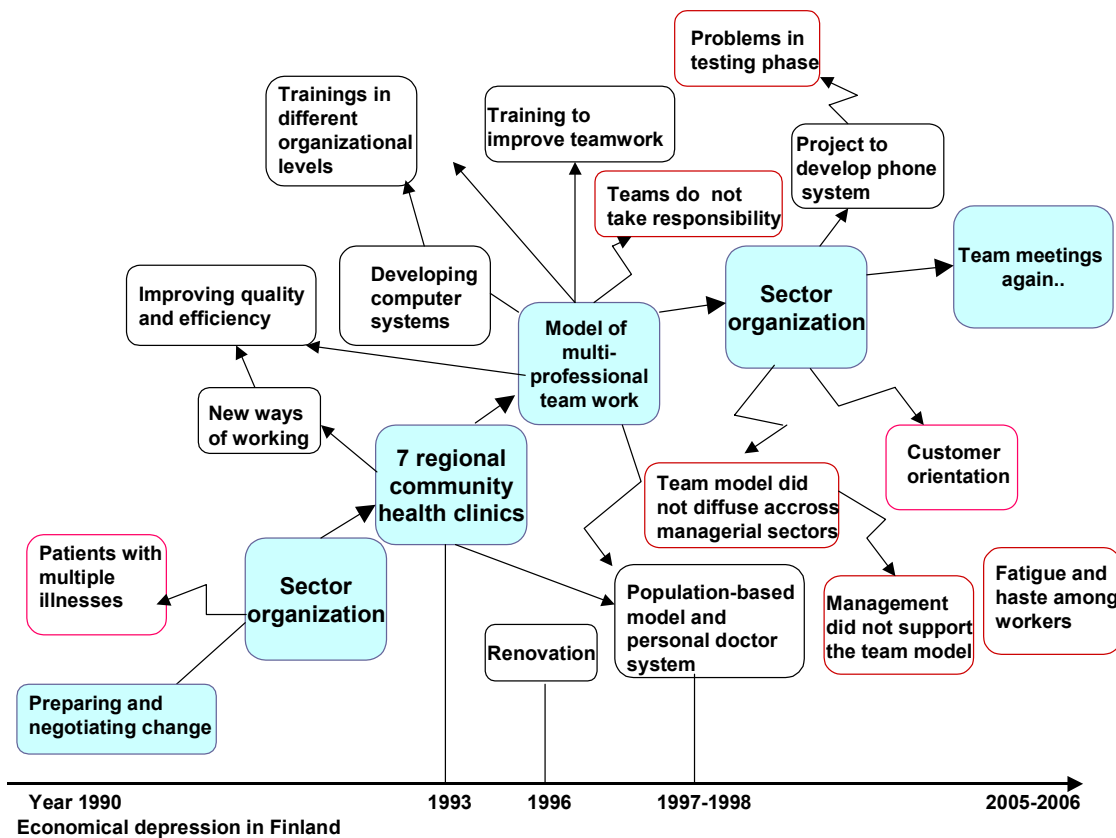
The map above represents the synthesis of the analysis of the stories, documents and observations. The map illustrates the overall view of change in the health center between years 1990-2005. The map is can be read from left to right. The light green (dark) squares on the map represent the main plots analyzed from the interviews.

The health center started to face problems in the early 1990. There was a discrepancy between the health center's inflexible organizational structure and the patients' needs for multi-professional care. The "Working health center" project started at 1990 and shortly after that the organizational structure changed from sectors to population-based area division. The multi-professional teamwork was trailed at the "Working health center" project and expanded into practice more widely around 1997-1998. Then organizational changes appeared again in the late 1990s and the health center went back to sector model. This structural change did not support the emergent idea of the multi-professional teamwork. Since 2004 the health center's management has tried to introduce the team-based work practice for the employees again because multi-professional work is needed to respond to the patients complex demands.

"Working health care center" project in Case 1 had various consequences in one clinic of the health center. The employees worked in multi-professional teams during the project and learned to know each other personally. They also learned to know the contents of each other's work during the project and as a consequence inclination getting on to other occupational groups has grown in general. The employees are for example now more capable of taking over jobs of colleagues that are ill because their know-how has increased. The middle managers suppose that the effectiveness is now above the national average in the health centre clinic. The "truly" multi-professional teamwork is nowadays partially in use. One team of the health-center clinic has maintained the idea of teamwork and also geriatric sector does collaboration between health and social services. Interviewed employees have created collaboration to some directions out of their profession and agreed that the collaboration has become more flexible.

The interviewees generally agreed that they have developed professionally since the project. Project changed some employees' way of thinking and the way they structure work. The project gave them new tools to manage everyday work and supported personal growth. The employees felt that they had a chance to contribute to the development of their own work. Some felt that they learned during the project how to help each other. According to the managers, the employees' ability to discuss and to handle problems has increased. The project "sprang" the health center into action from being in "a rut" and gave some workers confidence. The project involved different professions and increased the sense of equality among the workers and made organizational hierarchies lower. As one consequence of the project the employees have established an association to support their work related well- being.

General overview of the organizational change in Case 2

The second case example of "Working health center" project was carried out in a health center consortium that provides health services for the population of eight municipalities. [d] The availability of services was considered unsatisfactory at the beginning of the project. There were queues to the services, patients were treated in single care visits and their providers could change from visit to visit. Customers felt that the service structure was hierarchical and services were provided in a bureaucratic manner (Launis, Simoila, Saarelma, Punamäki and Engeström, 1991). During the "Working health care center" project in 1990-1993, the health center consortium created a new model of organizing and working that applied the idea of population-based care and multi-professional teams. Furthermore, the integrated computer systems was adapted into use in community health clinics (Saarelma, 1993.) The new model of organizing and working was implemented into use in the health care consortium after the project.

The representatives of the health care management, medical doctors and nurses carried out the project in working groups that were assisted by researchers. Members of the working group were enthusiastic and active participants in the project during which they learned to develop their work as critical practitioners.

Implementing the new model of population-based care was not, however, un-problematic. All employees do not adopt new models of working in their day-to-day practices without questioning them. In this project, some employees thought that the new model was too modern, even strange. The economic recession during 1990s slowed down the adoption of the new model. For instance, the work premises could not be build, altered, or re-build to fit the requirements of the population-based care.

The health care consortium is presently a "working health center" as an interviewee put it. The population-based organization functions very well, most of the clients have continuous care relationships with their providers, work premises are up-to-date, and the information exchange between professionals runs smoothly. The map of the overall view of change in the figure 4 depicts the main transitions and their influences in the pathway of developing the population-based organization in the health care consortium.

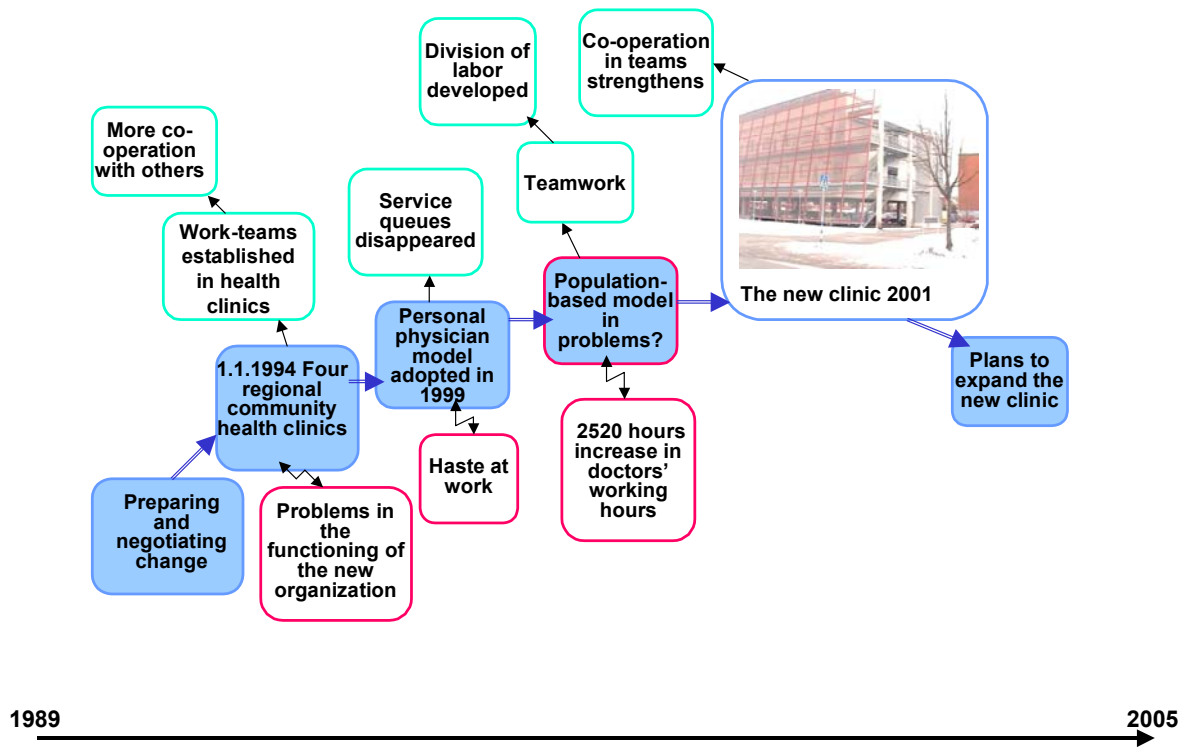Figure 4. Map of the overall view of change in Case 2

Figure 4 is a synthesis of the analysis of narratives, documents and observations in Case 2. In the overall view of the change, the main plots of the stories are synthesized into one main plot of "populations-based care." The light blue (dark) boxes mark the pathway of change in Case 2. The population-based care emerged as an template of new activity that became enriched during its development. The enrichment of population-based care included the emergence of new client-oriented motivation of activity, computers used as instruments in teamwork, a new social formation, i.e., teamwork, with alterations in the division of labor and new rules and regulations used in client-work.

The "Working health center" project led into creation of four regional community health clinics in 1994. They began to provide the medical care and preventive care for its clientele. Each health clinic had a work-team of medical doctors, nurses and assistant nurses. The new type of organizing increased the co-operation between the team members as well as with other teams and public services. However, the work premises did not meet the requirement of the population-based care and teamwork, the recession prevented the development of employment,

the queues for the services were not reduced, and the customers did not always have continuity in their care that was the motivation of the population-based care.
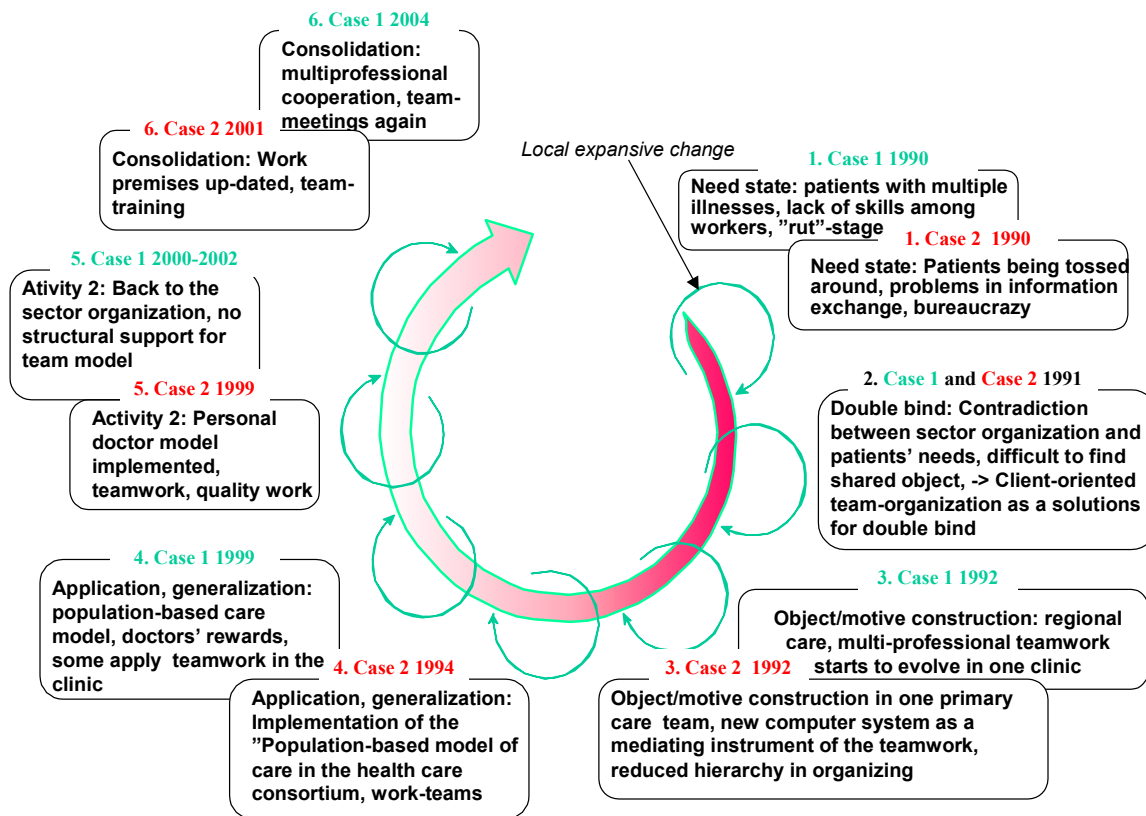
After the recession, the "personal doctor" model was adopted in population-based care in order to improve the continuity of care relationships. The population is listed to a certain doctor in the "personal doctor" model. The new model made the queues to disappear but the haste at work increased. In particular, nurses were overloaded but the amount of nurses was not increased, as was the case with medical doctors. The "personal doctor" model turned out to be vulnerable. It depended on personal relationships between professionals and clients in its functioning. Finding substitute professionals caused troubles for the functioning of the "personal doctor" model. But the model was working well in the clinics with permanent staff. Furthermore, the teamwork began to gain foothold in the clinics. The teams began to re-adjust the division of labor between doctors and nurses.

The final breakthrough of population-based care occurred after the opening of the new clinic and the renovation of the old clinic in the largest municipality of the consortium. The updated work premises enabled proper teamwork in health clinics that was also supported by training.

Organizational learning in Case 1 and Case 2

Figure 5 presents the process of organizational learning in Case 1 and Case 2. The cycle of expansive learning (Engeström, 1987) is used as an analytical instrument in modeling the phases of organizational learning.

Figure 5. Phases of expansive learning in Case 1 and Case 2

6. Case 1 2004
Consolidation: multiprofessional cooperation, team-meetings again

6. Case 2 2001
Consolidation: Work premises up-dated, team-training

5. Case 1 2000-2002
Ativity 2: Back to the sector organization, no structural support for team model

5. Case 2 1999
Activity 2: Personal doctor model implemented, teamwork, quality work

4. Case 1 1999
Application, generalization: population-based care model, doctors' rewards, some apply teamwork in the clinic

4. Case 2 1994
Application, generalization: Implementation of the "Population-based model of care in the health care consortium, work-teams

Local expansive change

1. Case 1 1990
Need state: patients with multiple illnesses, lack of skills among workers, "rut"-stage

1. Case 2 1990
Need state: Patients being tossed around, problems in information exchange, bureaucrazy

2. Case 1 and Case 2 1991
Double bind: Contradiction between sector organization and patients' needs, difficult to find shared object, -> Client-oriented team-organization as a solutions for double bind

3. Case 1 1992
Object/motive construction: regional care, multi-professional teamwork starts to evolve in one clinic

3. Case 2 1992
Object/motive construction in one primary care team, new computer system as a mediating instrument of the teamwork, reduced hierarchy in organizing

At the phase one of expansive learning during 1990, the need state for organizational development emerged that can be described as the questioning state of the organizational activity. The prevailing practices of patient care were criticized in both cases. Furthermore, the employees' lack of skills was being questioned in Case 1 and problems of information in Case 2. At the phase two during 1991, the problems of the prevailing activity were analyzed. Both cases had a contradiction between the sector organization and patients' needs. Client-oriented team-organization was modeled as a solution for double bind. The creation of the model led to experimenting the regional organization and teamwork in both organizations at the phase three. One primary care team acted with medical doctors and nurses experimented the new model. At the phase four, the model of population-based care and team-organization were implemented on the level of the entire health care consortium in Case 2 at the beginning of 1994. In Case 1, the population-based care was implemented together with the personal doctor model in 1999 while only some teams applied teamwork in one of the clinics of the health care center. Population-based care, teamwork was developed further in Case 2 in 1999 while Case 1 returned to sector organization at the phase five. At the phase six, the population-based care and teamwork were

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consolidated in Case 2 during 2001 while some teams in Case 1 began to increase the multi-professional cooperation and teamwork in the sector organization.

We analyzed the processes of *anchoring*, *engagement* and *resistance* from the narratives during the first three phases of the cycle of expansive learning. In Case 1, the project group was multi-professional and enthusiastic, which according to managers of the health clinic supported anchoring of the project. The employees were actively involved and learned to express their own opinions and to sketch shared objectives. The employees started to write the history of the health center and according to managers of the health clinic the writing speeded up the anchoring of the idea of a large-scale change project.

In Case 2, the *engagement* to change was promoted by the employees' participation in the process of developing the population-based model. From the perspective of management of the health care consortium in Case 2, creating a new organizational and managerial structure, i.e., a regional health clinic led by a team leader and his or her substitute, carried out anchoring of the population-based model. Employees emphasized anchoring of the new model by adopting the population-based care, work-teams and the computer system later in the period of implementing the model in the health care practice. Anchoring the population-based model "side-ways" emerged also later in the period of adopting the model in practice by increasing co-operation between professional groups and other public services such as social work, and hospitals. Employees felt also that overcoming chaos created confidence to change at the beginning of the developmental process. Later the employees considered that the management's support for changing the work practices promoted development and learning.

Resistance is necessary part of development in expansive learning. In Case 1, some employees did not want to participate in the analysis of the prevailing activity. They felt that it was not worthwhile to write the history or do the interviewing that was used in the analysis of the double bind. The project was also considered too theoretical, the models were too complicated, and it was hard to participate the project beside normal work. However, the management of the health clinic felt that the project was well defined and very necessary in improving the health clinic's activity. Some felt that multi-professional teamwork was threatening their occupational identity. The economic situation caused uncertainty in the working situation for some. In Case 2, all employees were not interested to participate in the development of the new model of organizing. Implementation of the population-based model, work-teams, and the computer systems were also resisted. Some employees considered that the time used in team meetings was taken away from clients' service hours. Computer systems were resisted because work could be done more quickly with old practices than with new computers.

At the fourth phase (implementing the new model) of the expansive learning, the processes of *stabilization* and *destabilization* occurred. In Case 1, couple of key persons from the middle management has continued working in the health clinic. The permanence of them has supported the stabilization of the project. According to managers the length of the project supported the stabilization of the changes. The project was long and profound enough. When the project ended there was cooperation between health- and social workers on the level of clinic work. However processes of *destabilization* also took place. The working pace was very rapid and the employees felt pressured and fatigued. There was constant shortage of nurses and doctors. The employees were competing on financial resources that did not support the idea of multi-professional teamwork. The employees thought that the management on the level of the health center did not support the clinical changes. The population-based care was destabilized with the introduction of the sector-based organization structure at the fifth phase of expansive learning.

In Case 2, the processes of *stabilization* and *destabilization* emerged mainly during the implementation of the population-based model. The necessary regulations of activity stabilized the change on the formal level. Computer system, personnel training and practical guidelines also promoted the stabilization of the new organizational model. Employees emphasized the creation of regional based lists of patients and work-teams as means of stabilization of the population-based care. Recession during 1990s and understaffing *destabilized* the implementation of the population-based organization. The regional model was difficult to implement in practice since the regions were incommensurable in terms of age and social conditions of the population. This caused the workload of the medical professionals to become uneven. Some professionals considered familiarization with customers stressful in a small place. Nurses thought that medical doctors destabilized the population-based care by not doing enough teamwork with nurses.

At the phase five, the *cultivation* of the population-based care became materialized in adapting the personal doctor model in Case 2. Up-dated work premises, quality management and quality work, team-training as well as medical doctors and nurses working side-by-side in teams enriched the population-based team-organization. For instance, the doctors and nurses re-adjusted their division of labor and nurses began to receive customers by themselves for some treatments and tests. In well-baby clinics, the doctors and nurses have shared receptions for clients. Presently, teamwork is also used in reflection of activity and in co-operation with other teams.

Changes in workforce, particularly medical doctors *degraded* the population-based care during the implementation of the model in Case 2. The multiplicity and increasing difficulty of

patients' problems are presently degrading the population-based organization in the period of *maintenance*. The roles of nurses and assistant nurses are still unclear and medical doctors and nurses are working in a-synchrony. While doctors are guided by the population-based logic of care, nurses sometimes stick to work guided by professional sectors. Assistant nurses find it difficult to assign visits to personal doctors as much as requested. While functioning well in the consortium, computer systems are not adjusted with the hospital network or other health care centers. This means that one part of the information exchange is carried out manually.

At the fifth and sixth phase of the expansive learning in Case 1, there were processes of *maintenance* as well as *degradation*. The maintaining of the change ideas has been bound to individual actors of the health clinic that were key persons in the project. The middle management has continued to use the activity-theoretical framework at their present training. One manager thought that the knowledge of the theory has brought the work community capacity to handle matters. The employees of the health clinic recognize the need for doing multi-professional teamwork because the patients and whole families have demanding multiple problems but the employees feel that there are not enough resources available to do multi-professional teamwork. The work of the health clinic in the sector organization is mainly clustered and a lot has to be done alone. Multi-professional teamwork is now occasional even in the health clinic; one team only can be identified as truly multi-professional. The employees have mostly remained there since the project, which has supported the maintenance of the ideas of teamwork. The management of the health center has recently began to support the idea of teamwork within the sector organization since the autumn of 2004.

New work premises, quality systems and re-adjusted teamwork have promoted the *maintenance* of the population-based organization and care in the health care consortium in Case 2. The idea of team management is to support the individual employees and teams to provide health services independently within the rules and practical guidelines for care. Team leaders coordinate the work conditions of single professionals and teams. Computers systems work well and they are up-dated continuously.

Structural changes in the organization, such as the population-based care model, the new reward system for doctors, and the new nation-wide regulations for access to care *degraded* the maintenance of the multi-professional teamwork in Case 1. There were also some resistant attitudes towards the multi-professional teamwork in the health clinic and it was considered either threatening or too idealistic. The social home care services have diverged from the health center and moved to another location in 1994. The cooperation between the health clinic and the home care has degraded in Case 1. The social home care services that used to be part of social

work and the home care that used to be part of health work were united shortly after the project ended. The unification caused some contradictions and power struggles but even so there are now small local teams within the home care that are multi-professional.

Conclusions and Discussion

In this section, we will conclude our findings and discuss our activity-theoretically based method of organizational learning remembered in narratives, documents and material artifacts.

Management's engagement to organizational change and learning was central in our empirical examples. The management of an organization can accelerate change by creating organizational structures, regulations, managerial models, work premises, and tools. In Case 2, the managerial models of teamwork involved the implementation of the model in the level of managerial practices. Management supported also the adoption of population-based care and teamwork in many phases of organizational development and created opportunities for organizational learning. In Case 1, the population-based care was implemented as a formal organization but the practice of teamwork became encapsulated in the practice of one clinic only.

Employee's engagement in organizational change and learning seems important in our findings. Employees' active participation in the change project promotes sustainability of organizational learning. Change remains formal without employees' engagement. In our examples, the innovative forms of learning and development did not diffuse without difficulty among those who did not participate the change project. It seems that ancillary instruments, work premises and methods are needed in the implementation of new work models. For instance in Case 2, the population-based care was cultivated and enriched with the models of team leading and quality work, team training, and by creating new work premises.

Alignment of actions between management and employees and different professional groups promotes organizational learning. In our examples, the alignment of visions and motivation of activity between management and employees varied. Other models were more relevant to the management of health center than those developed in the practice of one clinic's work in Case 1. Different professional groups may also foster different realities. In Case 2, the work of the medical doctors, nurses and assistant nurses were not always in synchrony. Doctors were guided by the logics of action related to population-based care while nurses acted by the principles of sector work.

In our study, remembering organizational change is a non-linear, sedimentary process that can be captured through narratives, documents and material artifacts. Our investigation proceeded in a step-like manner and we moved between different techniques of data gathering

and analyses. We created some intermediate analytical tools such as the story-map, the over-all view of change, and matrixes of documents in investigation of organizational learning remembered. However, we had difficulties in analyzing the levels of activity and practice and the multi-voicedness of individual actions. The story-map brings up the story lines of single practitioners but it is difficult to capture the interwoven pattern of the entire practice.

Why is it important to remember past in present? Seeking traces of past change efforts are a neglected aspect of organizational development, learning and change. Organizational knowledge from the past is fragmented and implicit in organizations. Remembering past in present is, however, important for mastering change. Finding synchrony between separate realities of development and right moments for change efforts is essential. For instance, introducing the idea of teamwork type of organizing was ahead of its time in one of our empirical examples. Employees' contribution to organizational learning and change needs to be acknowledged. Employees are able and willing to participate in the creation and re-creation of their organizational realities.

Acknowledgements

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[a] The project is called "Stabilization and diffusion of innovative forms of work and learning". Members of the research group are Professor Yrjö Engeström, Researcher Hannele Kerosuo and Researcher Anu Kajamaa. The project is carried out in the Center for Activity Theory and Developmental Work Research, University of Helsinki.
[b] Anu Kajamaa has also completed her master theses on searching the consequences of a change project (Kajamaa, 2005).
[c] Doctor Riitta Simoila was the principal researcher of this sub-project.
[d] MD Osmo Saarelma was the principal researcher of this sub-project.