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The dialectics of authoring expansive learning: tracing the long tail of a Change Laboratory

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Abstract

Purpose – The paper aims to examine organizational authoring understood as a longitudinal, material and dialectical process of transformation efforts. The following questions are asked: To which extent can a Change Laboratory intervention help practitioners author their own learning? Are the authored outcomes of a Change Laboratory intervention futile if a workplace subsequently undergoes large-scale organizational transformations? Does the expansive learning authored in a Change Laboratory intervention survive large-scale organizational transformations, and if so, why does it survive and how?

Design/methodology/approach – The paper develops a conceptual argument based on cultural–historical activity theory. The conceptual argument is grounded in the examination of a case of eight years of change efforts in a university library, including a Change Laboratory (CL) intervention. Follow-up interview data are used to discuss and illuminate our argument in relation to the three research questions.

Findings – The idea of knotworking constructed in the CL process became a "germ cell" that generates novel solutions in the library activity. A large-scale transformation from the local organization model developed in the CL process to the organization model of the entire university library was not experienced as a loss. The dialectical tension between the local and global models became a source of movement driven by the emerging expansive object. Practitioners are modeling their own collective future competences, expanding them both in socio-spatial scope and interactive depth.

Originality/value – The article offers an expanded view of authorship, calling attention to material changes and practical change actions. The dialectical tensions identified serve as heuristic guidelines for future studies and interventions.

Keywords Activity theory, Expansive learning, Knotworking, Change Laboratory, Object of activity, Organizational authorship

Paper type Research paper

1. Introduction: authoring beyond words

Available conceptualizations of organizational authorship are centered on conversations as managerial resources for the development of workplaces and organizations. Managers are seen as practical authors (Shotter, 1993) whose job is

reportedly to create a coherent text about what is going on in the organization in the course of everyday conversations (Duchan, 2004). Similarly for Cunliffe (2001), authorship entails "a reflexive awareness of the constitutive nature of language and being responsive to other voices and the otherness of our landscape" (p. 367). These views on authorship also inform studies of learning. For Pavlica *et al.* (1998), for instance, the manager is "a practical author of learning" (p. 300), and:

[…] through conversations for understanding and action, within the everyday activity of organizational life […] the manager with others has the opportunity to connect the descriptions, stories and argumentative traditions that abound in organizational life, and become aware of their shared past, present and future. (p. 306)

The conversation-centered understanding of authorship has been criticized for excluding "the physical, geographical, relational locatedness of text production" (Lander and Prichard, 2003, p. 175) and for a tendency "to deny the power and the intransigence of already constituted positions. These deeper structures are like icebergs and the dialogic engagement is the visible tip" (Lander and Prichard, 2003, p. 178). Several discursive approaches in organizational research have recently begun to seek ways to include material aspects of work into their analytical frameworks (Cooren *et al.*, 2014), following the lead of conversation analysts such as Goodwin (1994, 1995, 2000). This reorientation is not yet visible in literature on organizational authorship.

As space does not permit a thorough discussion of the existing literature on organizational authorship, our critical comments are necessarily somewhat simplified and cannot do full justice to the insights developed in the literature. Our main concern is that primarily or exclusively emphasizing the verbal dimension of reality runs the risk of losing touch with the tangible aspects of productive activities and their historical development. Putting primary emphasis on conversations, Ford and Ford (2003), for instance, go as far as to maintain that the reality of mining processes lies in conversations taking place in the organization. Within such a perspective, authoring change equates to making shifts in conversations.

The conversational perspective emphasizes "crucial interactive moments, fleeting one-off events, in which possibilities emerge for constructing some kind of sense of or orientation to self, others and our social landscape" (Cunliffe, 2001, p. 352). If authoring happens as a result of conversations seemingly taking place in an unspecified historical vacuum, it is difficult to see where the crucial interactive moments stem from.

For us, such crucial interactive moments are engaging and consequential when they are understood as stemming from the historical development of the form of production that defines the organization. From the activity-theoretical perspective we adopt here, authoring change entails deliberate focused experimentation with the object of activity involving specific meaning-making efforts, including, but not limited to, conversations. This view of authorship is particularly relevant when organizations undergo significant historical transformations and need to radically reorient their activities.

This article develops a complementary and expanded view on authorship. Although the role of language and conversations in workplace learning is undeniably important, strictly discursive accounts seem insufficient as theoretical resources for the understanding of organizational authorship. Authorship for us involves collective reflexive awareness of the historical development of the object of the organization's activity and innovative solutions to respond to clients' needs that evolve with the

historical development of the object. This means that besides being discursive or conversational, authorship is deeply material, object-oriented and collective.

Organizations may emerge through conversations, but they do not emerge for the sake of conversations. They emerge and continue to exist to produce goods, services or less-clearly definable outcomes for customers or users. If you take away patients and illnesses, you do not have hospitals. The object is not reducible to the raw material given or the product achieved. It is understandable as the trajectory from the raw material to the product in the emerging context of its eventual use by another activity system. Thus, the object of a hospital may be characterized as the trajectory from symptoms to treatment outcomes in the context of the patient's life activity. The object is projective and transitory, truly a moving horizon. However, it is also specific and concrete, crystallized, embodied and reproblematized in every single patient and illness entering the hospital time and time again (Engeström, 1999).

We will argue that authoring organizational change is a longitudinal and dialectical process driven by contradictions. In this sense, authorship involves authoring collective learning and development. In this article, we examine a case of organizational authoring with an aim to trigger and support expansive learning (Engeström, 2015). The process was facilitated by means of a formative intervention called as the Change Laboratory (CL) intervention (Engeström *et al.*, 1996; Virkkunen and Newnham, 2013). We will trace the "long tail" of the CL intervention to examine to what extent and in which ways the initial momentum of authorship was continued and sustained (for an effort with a similar orientation, see Haapasaari and Kerosuo, 2015).

The aim of this article is to develop an expanded notion of organizational authorship. Our analysis will focus on the dialectics of authoring expansive learning during eight years of change efforts in a university library. The case illustrates how expansive learning authored by the library practitioners was pursued after the CL intervention despite the fact that the entire university library system underwent large-scale organizational transformations. The article asks the following interrelated questions:

RQ1. To which extent can a Change Laboratory intervention help practitioners author their own learning?

RQ2. Are the authored outcomes of a Change Laboratory intervention futile if a workplace subsequently undergoes large-scale organizational transformations?

RQ3. Does the expansive learning authored in a Change Laboratory intervention survive large-scale organizational transformations, and if so, why does it survive and how?

Answers to these three questions will help us construct a provisional expanded concept of organizational authorship.

In the next section, we introduce key conceptual resources from activity theory that we used to develop our notion of authorship, namely, the concepts of object of activity and expansive learning. After that, we present the setting and data of our case analysis, as well as the method of analysis we used to trace the dialectics of authoring in our data. We then present the data analysis, devoting a section to each one of the three research questions. In the conclusion, we sum up our answers to the research questions and formulate an initial characterization of the dialectical movement of organizational authorship based on the university library example. We also discuss the theoretical and

methodological implications of our case with the aim to complement current understandings of authorship and foster practical authorship of expansive learning in workplaces.

2. Authoring expansive learning as a dialectical process of relating with the historically evolving object of activity

Human activity is a historically evolving systemic formation oriented at an object (Leont'ev, 1978). The object is both an entity that confronts and resists the actors' efforts and a projected perspective or purpose that drives and motivates the actors' transformative efforts. In a complex organization, individual actors are seldom fully aware of the object of their collective activity. Yet, the object keeps the activity together and gives it direction.

The object is a historically evolving entity that carries the purpose and motive of the activity and yet is thoroughly material in its daily instantiations. In the context of library work, the classic object of the activity has been the book, which is understood as something that embodies the motive of preserving and transmitting human culture.

Expansive learning is a process in which learners analyze, experiment with and reconceptualize the object of their activity (Engeström, 2015). Often, expansive learning is needed when the object of an activity has disintegrated or become so ridden with contradictions that the very continuity of the activity is at risk. Expansive learning involves the rediscovery of what the activity is, whom it serves and what is its purpose. Coming to terms with the object of the activity can be an empowering experience for practitioners because the object embodies the very reason that justifies the organization's existence. A reconceptualized object of work can therefore become a driving force of a persistent pursuit of meaningful and effective ways of working that meet the needs of changing societal reality.

Expansive learning is a demanding type of learning, something not customarily experienced by practitioners. It can seldom be authored in a straightforward way, as if spontaneously. Thus, expansive learning is often induced by means of formative interventions such as CL (Virkkunen and Newnham, 2013). Yet, expansive learning is primarily a process authored by practitioners themselves. Authoring expansive learning means authoring the object of activity with the help of material experimentation, modeling and practical implementation.

Authoring expansive learning with the help of a CL intervention is characterized by productive tensions. To understand and make use of these tensions, dialectical epistemology and methodology are needed. Activity theory relies on materialist dialectics:

> […] developed from the standpoint of engaged practical agency, rather than from the sort of detached intellectual contemplation that characterized dialectical thinking in the West from the Greeks through Hegel (Ollman and Smith, 2008, p. 3).

The notion of unity of opposites is a key notion of dialectics. It means that the opposing forces in a system require one another and, through their interplay, form the basis of the development of the system.

Expansive learning is a dialectical unity of opposites in multiple senses. Previous studies have shown that although the interventionist-researchers may initially guide the

process with their instructional intentions, the participating practitioners have their own evolving intentions, which do not fully coincide with those of the interventionists. This gap and tension between teaching and learning can lead to encounters in which the participating practitioners disrupt, take over and generate a novel direction for the process (Engeström *et al.*, 2013). Expansive learning has also been analyzed in terms of tension and movement between consequential here-and-now actions and long-term envisioning (Engeström *et al.*, 2003). Furthermore, expansive learning has been discussed in terms of the dialectical tension and movement between continuity and discontinuity of learning and development (Engeström *et al.*, 2007).

In the present study, we focus on two additional dialectical tensions which have thus far received less attention. The first is tension and movement between the local organizational context and the enlarged or "global" organizational context of the activity. This may also be understood as tension between bottom-up and top-down change efforts in the organization. The second tension particularly relevant to the present analysis is that between the expansion of the social and spatial scope of the activity on the one hand and expansion of the interactional depth of the activity on the other hand. Socio-spatial expansion typically takes the shape of networking and forming alliances with units and organizations outside one's own activity system. The expansion of interactional depth means developing new forms of intensive collaboration with close colleagues and clients typically by means of face-to-face interaction. We will elaborate on these tensions in Section 4.

3. Setting and data

In the beginning of 1990s, there were no less than 160 separate faculty and department libraries at the University of Helsinki, and until 2010, most departments and faculties of the University of Helsinki had their own libraries. Each library had developed its own practices and conventions over the years. Such libraries shared three important common features. First, they were based on a specific scientific discipline or a cluster of related disciplines. Second, they saw print-based and book- and article-related services for individual researchers as their primary object. Third, they operated within relatively small communities and often developed long-term personal relations with their clients. This craft-like activity has undergone radical transformation in the past few years. Major steps of this development are summarized in Table I.

We may discern three distinctive phases in Table I. The library as a whole has moved in eight years from a scattered network of craft-oriented and discipline-based faculty and department libraries to a formally unified library with four quite independent campus libraries with each serving its own cluster of disciplines and to a unified and centrally managed library divided into service entities that cut across the campuses and disciplines. The driving motives behind these transformations include reduction of costs caused by overlapping services separately designed and produced in different sub-units. A more foundational motive behind the changes is the ongoing global shift from printed books and articles to digitally stored and distributed texts. This requires that print-based and discipline-specific library services are increasingly transformed into digital services that cut across disciplines. These are material and historical transformations that cannot be reduced to shifts in conversation or fleeting one-off events in which possibilities emerge.

2007	Architecture contest for the design of the new center campus library building is organized and completed
2008	Decision is made to create a unit called Helsinki University Library
2009	Separate faculty and department libraries are unified into Helsinki University Library, consisting of four campus libraries and centralized administrative and support services; the City Center Campus Library begins its functioning in 11 locations
	The new building of the City Center Campus Library is designed in working groups with architects, university facilities administration and librarians
	Change Laboratory intervention is launched in the City Center Campus Library to facilitate the design of activity in the new building (8 sessions with library practitioners and representatives of four client research groups held in the fall)
	New organization model based on two chief information specialists (social sciences, humanities) is designed in the Change Laboratory for the City Center Campus Library, intended to facilitate the development of new kinds of services for research groups
2011	New organization model designed in the Change Laboratory is implemented in the Center Campus Library
	Preparations are underway for moving collections and people from the scattered locations to the new City Center Campus Library building
2012	The new City Center Campus Library building is completed and the move into it proceeds through the summer (about 150 library workers move into the new facilities)
	The new building generates widespread interest; library practitioners devote significant resources to presenting the building to visitors from around the world
2013	New University Librarian is appointed to manage Helsinki University Library
	Planning of a new organization model for the whole library is launched in the fall
2014	Planning of the new organization model is completed; the model is based on services and clients rather than on disciplines and campuses
	Implementation of the new organization model is prepared in the fall; library workers are divided into three client-oriented service entities that cut across campuses, namely (1) learning services, (2) access services, and (3) research services, plus shared administrative services as a fourth entity
2015	The new organization model is officially implemented

Table I.
Timeline of transformation of the library activity

A CL intervention was conducted in the library in Fall 2010. The CL intervention consisted of eight videotaped sessions that lasted for about 2 h each, with two follow-up sessions some months later in 2011. In the CL sessions, participants and interventionists-researchers used a set of representational devices for jointly analyzing disturbances and contradictions in their activities and for designing new solutions. In this case, the CL intervention focused on one of the four campuses, the city center campus, which comprises departments and faculties of humanities, social sciences, law, theology and behavioral sciences. The intervention was focused on this campus because the fragmentation of library services in this campus was very pronounced and the emerging city center campus' library building was a powerful material factor in its own right, pushing and pulling the transition from separate scattered locations to a newly designed and shared facility.

The timeline in Table I indicates an important tension and movement between enlarging the context and focusing on the local model. The local expansive learning process in the city center campus' library did not neatly reproduce the three aforementioned successive organizational models as a whole. In the CL process, the practitioners generated a new organization model for their own campus library with an

aim to facilitate the creation of new services for research groups. This model, briefly and partially implemented between 2011 and 2014, was something of an anomaly from the point of view of the overall developmental trajectory of the entire library. It was still based on the clusters of disciplines, in that the city center campus' library itself was created to serve humanities and social sciences, and the model was built on two chief information specialists, one for humanities and theology and the other for social sciences, law and behavioral sciences.

However, the model was also strongly future-oriented, in that it aimed at generating novel digital services for research groups to be codesigned and implemented in "knotworking" collaboration between library practitioners and research groups (Engeström et al., 2012a, 2012b). We might say that the core object of the activity was radically re-envisioned in the model, but the larger organizational frame given to the practitioners at that point in time limited the expansive potential of the model. Paradoxically, the new building – initially a strong material impetus for change – also became a limiting factor, in that it tied up a lion's share of the practitioners' resources away from implementing the expanded object, first to move the collections and then to present the beautiful new building to a flow of international visitors.

In the following sections, we will examine in some detail each one of the three questions we posed in the Introduction. Our analysis is based on two sets of data. First, we draw on the data collected before, during and after the actual CL intervention. However, as these data have been described and analyzed for different purposes in earlier articles (Engeström et al., 2012a, 2012b, 2013; Engeström and Sannino, 2013), we will not conduct another detailed analysis of the CL process; this data set remains in the background. Instead, we will focus on what has happened after the actual CL intervention.

The second set of data, the one which we explicitly discuss in the following sections, consists of two extensive follow-up interviews, both conducted with a former director of the city center campus' library, now the director of research services of the unified Helsinki University library (identified as K in the data excerpts), and an information specialist, who, during the CL intervention, served as a key liaison person between the library and the interventionists and who now works as an expert in the research services of the library (identified as L in the data excerpts). The interviews were conducted in January and November 2015. In the following data excerpts, we refer to these interviews as Interview 1 and Interview 2. They lasted approximately 90 min each. When we use the term library practitioners, we include in it also the director. The interviews were conducted in Finnish by the second author. They were transcribed and translated into English.

4. Method of analysis
We analyzed the thematic contents of the interview transcripts in two main steps. First, we identified segments that related to the three research questions. For example, when an interviewee assessed his/her own experiences of the CL process or the impact of the idea of knotworking in the library community, we categorized the answer as an item related to the first research question. Similarly, when an interviewee described or commented on the transformation of the larger library organization after the intervention, we categorized the answer as an item related to the second research question.

This first step of analysis was relatively straightforward. As our research questions were clearly relevant for the practitioners, they translated quite naturally into interview questions and topics of discussion.

The second step of analysis consisted of looking for dialectical tensions in the accounts given by the interviewees. In a previous research, we developed a method of identifying discursive manifestations of contradictions in CL conversations (Engeström and Sannino, 2011). In CL conversations, the participants typically express emotionally charged dilemmas, conflicts and double binds that make visible contradictions with which they are confronted, but which they are only beginning to analyze. The interview data analyzed for the present article differ from CL conversations. In our interviews, the practitioners largely reflected on accomplished processes in which they had consciously taken authorship roles. This required us to analyze the dialectical tensions primarily as issues the interviewees themselves were also analyzing and conceptualizing. Expressions of dialectical tensions may be identified as pairs of opposite forces or tendencies. The opposites are typically connected to and in interplay with one another, but not necessarily immediately, as definitional pairs in a single utterance. The unity of opposites needs to be worked out by scanning larger chunks of data.

Working iteratively through the interview transcripts, we identified two recurring main tensions the practitioners were reflecting on. The first was the tension between local change efforts and developments in the city center campus' library on the one hand and the global changes in the university-wide library organization on the other hand. This tension occasionally took also the form of a tension between bottom-up and top-down change initiatives. The second pervasive tension in the data was that between outward-oriented socio-spatial expansion through networking and alliance-building on the one hand and more inward-oriented expansion of interactional depth by developing new forms of intensive collaboration with close colleagues and clients on the other hand. This second tension occasionally took the shape of a tension between networking and knotworking.

In our data, these tensions were mostly described in positive terms as productive interplay or parallel coexistence of lines of development that might at a first sight be regarded as conflicting or even mutually exclusive. This type of positive dialectics is not common. Far from being an indication of blue-eyed naiveté, this positive tone is an outcome of a lengthy struggle to expansively redefine the idea of the activity from the ground up.

5. To which extent can a Change Laboratory intervention help practitioners author their own learning?

The experience of reconceptualizing the object of the library activity in a CL intervention has reportedly influenced the practitioners throughout this period of transformation. Particularly, the notion of knotworking stemming from the CL intervention was taken up by the practitioners. This notion was described first as an idea that has influenced the interviewees' personal development and perspective on their community.

5.1 Excerpt 1 (Interview 1)

L: The knotworking idea has influenced us all. It has been a very big factor in my development, but the impact is also much wider.

5.2 Excerpt 2 (Interview 1)

K: It is my wish that this way of working [knotworking] will be rooted in our community. Especially people in the city center campus and in Viikki campus are eagerly waiting to get restarted with services produced together with researchers.

5.3 Excerpt 3 (Interview 1)

Researcher: Has anything survived from the idea of knotworking?

L: Yes, we are investing heavily into project-like working, and this is clearly close to knotworking. […] And I have many, many times heard the new service directors use the word "knot"; for example "Let's make a knot for this".

The interviewees also pointed out quite concrete ways in which the idea of knotworking has been taken up and implemented after CL intervention.

5.4 Excerpt 4 (Interview 1)

K: […] the most important lesson from knotworking for us was that we get closer to the world of the researchers. So, the library is not a distant organization that operates in a vacuum. It must work in close cooperation with the researcher client; in this case, with research groups. This way of thinking became stronger already in the previous organization, in the campus library model. But, this new organization model aims at further strengthening the orientation to research services and collaboration with researchers.

Researcher: In the follow-up session of the CL, you both mentioned that the staff had started to initiate cooperative knots across the campus boundaries. Has this continued, has it become something like a normal way of working?

K: That is exactly what we aim at with the new organization. Development tasks are taken by teams that consist of members from different campuses.

5.5 Excerpt 5 (Interview 1)

K: Recently, when the consumer research center was integrated into the university's faculty of social sciences, the information specialist and a knowledge expert from Viikki (another campus) went to them and took perhaps 3 h to produce a tailor-made web-based introduction to the services the university library can offer to these researchers.

Researcher: So, this was actually knotworking?

K: It is that, it is part of the harvest from the CL. My worry is how quickly, within what time period in the midst of all these organizational changes can we relaunch tighter collaboration directly with some research groups.

K: We have difficulties to uncover researchers' needs. We have seen this with researchers but also with the research administration; people often do not realize what they might get from the library.

K: The European Union requires that research projects follow an open research data policy. […] The library has a key role in the implementation of the open data policy among researchers. […] Researchers who were involved in developing the idea of knotworking in the CL form a network that can serve as a stepping-stone in this development.

5.6 Excerpt 6 (Interview 1)

K: We have used our traditional forms of action as intermediate methods to reach researchers, such as discussions concerning the purchase of e-books for a specific branch of science.

L: It seems that these potential knotworking contacts are often initiated informally or in these more traditional encounters, such as PDA (patron-driven acquisition) meetings. […] We have prepared these encounters as knotworking situations, involving from the library whoever happens to have the most appropriate expertise for the given field and community. In such encounters, we often get novel initiatives from researchers.

Our data indicate that the idea of knotworking constructed in the CL process has become something like a "germ cell" that generates diverse concretizations and extensions in the library activity. The germ cell is the core of an emerging concept, understood in the dialectical sense reported by Ilyenkov (1982; see also Engeström *et al.*, 2012a, 2012b). A true theoretical concept in this perspective is not only a discursive or linguistic entity. It is inextricably embedded in and intertwined with material, object-oriented and artifactually mediated practice.

In the library, the concept of knotworking was intertwined with the new object of digital services for research groups and associated mediating artifacts. In other words, the concept of knotworking was more than a new form of collaboration; it was intimately connected to "what comes after the book". Without this substantive relationship to the actual object of the activity, knotworking could not be a sustainable germ cell. However, when a CL intervention succeeds in generating a substantive germ cell, it provides the practitioners with a powerful generative tool for authoring their own expansive learning in a long-term perspective.

6. Are the authored outcomes of a Change Laboratory intervention futile if a workplace subsequently undergoes large-scale organizational transformations?

The CL intervention in the city center campus's library produced two kinds of authored outcomes, namely, a new organization model and a model of services that opened up a perspective toward codesigning digital services for and with research groups. What happened to these? Did they evaporate as the entire library organization was changed?

Clearly, the organization model developed in the CL process for the city center campus' library did not survive as such. However, the interviewees saw a line of

continuity from the idea of knotworking and digital services toward the new organization and its emerging mode of operation.

6.1 Excerpt 7 (Interview 2)

Researcher: Your 2011 model was created by yourselves; it was your own model as a result of the CL process. Now the new model seems to have been partly prompted by the fact that the library got a new director. To what extent can you say that this new model is your own? Have you been makers or agents behind it, or was it given to you?

L: The director was involved in making it.

K: We had a group of about five people from the library organization; we investigated I think three different models of organizing university libraries.

Researcher: Where did you get those models?

K: We took them from different real libraries around the world. The one which we chose is quite a common model now in various academic libraries around the world. Perhaps something was also adopted from the thinking we had in the city center campus, namely, taking key client groups as the starting point, and then thinking which services are common to all.

Researcher: Was there discussion among the staff about the possible new organization models?

L: Yes, we had several "library of my dreams" workshops among the staff. These fed ideas into the planning of the new model.

6.2 Excerpt 8 (Interview 1)

L: In the discussions that prepared the formulation of this new organization model (the one implemented in 2015), several city center campus colleagues, me included, took up digital network services that should be produced for the whole library, not separately for each campus. I feel that we in the city center campus would not have seen this need so clearly if we had not had the CL. That is when we joined the implementation of FeedNavigator (a digital service initially developed in the medical campus library, adopted and modified by the city center campus' library in the course of CL).

6.3 Excerpt 9 (Interview 2)

K: The current model had to take into account all the four campus libraries, not just our experiences from the city center campus. But there is some continuity. In our new organization, there are three basic outward-oriented service functions which cover all the campuses, namely, access services, especially collections; research services; and learning services. If you compare this with the campus library model, this is a step forward. Each one of these three is serving the entire university, led by a service director. […] These service functions are now much more oriented to clients, client groups, such as students or researchers. Disciplines or disciplinary domains of science are not anymore a basis of the organization.

Interestingly, the interviewees maintained that workers of the city center campus' library accepted and appropriated the new organization model with little resistance, in fact with enthusiasm.

6.4 Excerpt 10 (Interview 1)

L: There are still some who long for the past. But they do not long for the campus library, they long for something much older.

Researcher: For departmental and faculty libraries […] when one knew all the clients?

K: When there were a limited number of clients and clear tasks.

L: Yes, perhaps it had its advantages, but we just have to move forward.

Our data indicate that the large-scale transformation from the local organization model developed in the CL process to the organization model of the entire university library was not experienced as a loss. If there were feelings of loss, they were associated with the traditional craft-based organization, not with the campus library organization authored collectively by the practitioners. It seems that the expansive authorship generated in the CL intervention was so strongly driven by the construction of a new and materially grounded object – digital services continuously cogenerated with research groups – that defending or mourning for an intermediate local outcome such as the campus library organization model was all but irrelevant. The dialectical tension between the local and the global models did not stagnate into a mechanical opposition, but became a source of movement driven by the emerging expansive object.

7. Does the expansive learning authored in a Change Laboratory intervention survive large-scale organizational transformations, and if so, why does it survive and how?

Expansive learning is manifested in collective efforts to redefine the object of the activity so as to open new and wider possibilities and responsibilities. Our interviewees saw the introduction of the new organization model of the entire library as a significant impetus and opportunity for such expansive steps.

7.1 Excerpt 11 (Interview 2)

K: […] It is interesting that we discussed the research data question in the CL, mainly with regard to cognitive science, and we learned a lot about the everyday reality of a research group in terms of managing data. Now, we are an active agent in consulting research groups. We are part of a network of actors responsible for this, including the library, the IT department and the central research service department of the university. In the latter, mainly legal experts and funding experts are involved. Our special expertise in this is focused on constructing data management plans. You will probably be happy to hear this; we have external funding to develop a toolkit for preparing data management plans for nationwide use. The project is led by one our own experts. The toolkit will include templates for different funding agencies, Academy of Finland, Tekes, European Union […] The templates will be automatic digital tools, but when needed, our experts will go through the plan with the applicant

researchers. Some researchers have also been involved in designing these tools. This is not yet common in libraries.

L: In this project, we have partly used the acquaintances we got during the knotworking project in the CL.

The new expansive learning challenges call for networking and partnering with various actors outside the library, within the university and beyond. However, the practitioners pointed out that this expansion in scope must be developed in interplay with the expansion of close interactions in depth. As the interviewees saw it, local and personal contacts with clients gain a new meaning and importance with the implementation of digital services.

7.2 Excerpt 12 (Interview 1)

Researcher: It seems like an interesting dual strategy. On the one hand, you offer highly standardized digital services such as templates for data management plans required by funding agencies. On the other hand, I suppose you also need to offer researchers a possibility to discuss the data management plan directly with an expert of the library.

K: Yes, the support services must be available, and it is the library's role to offer them as part of wider network. The IT center for science has a role of its own, and we also collaborate with the central research administration of the university, as they have expertise in legal and financial matters.

7.3 Excerpt 13 (Interview 2)

K: It is important to identify and support among researchers such people who understand possibilities opened by collaboration with the library; those researchers will be important in the long run.

The interviewees made it clear that the most important challenge for continued expansive learning among the library practitioners is the forging of the future librarian as a mobile and versatile actor who crosses disciplinary, geographic and organizational boundaries.

7.4 Excerpt 14 (Interview 1)

Researcher: Do library staff members move between campuses, from one library site to another? Is such mobility a part of your way of working?

L: It is beginning. In the current round of performance appraisals, we for the first time take up the question whether the employee would consider working part of the time in another library site. I myself have been working 2–3 days a month in Kumpula (another library site). This kind of mobility has clearly started to happen in the past couple of months, something that did not happen before. […] We go to another site to help when they are short of staff for a particular task. Also, some colleagues who happen to live close to a library site different from their assigned base are now starting to work, for example, one day a week in the site closer to their home. […]

K: And in the city center campus library building, we are now preparing work spaces for visiting staff members.

7.5 Excerpt 15 (Interview 2)

L: […] The relationship and balance between disciplinary specialization and generalism is still something we are searching. Coming changes in the university, for example, the formation of the Helsinki Life Sciences cluster, make us move toward more broad-based expertise.

Researcher: The new model allows the library to foster interdisciplinary collaboration?

L: Yes, and the director has deliberately moved in that direction. But people are not always so flexible and ready to take such steps.

The practitioners were not waiting for novel competences to be determined from above. The continuity of expansive learning is most vividly evident in the current effort of the practitioners to construct a professional profile for future librarians.

7.6 Excerpt 16 (Interview 2)

K: What I have said in personnel meetings is that what is going on is a transformation of the service spectrum of the library, from predominantly printed materials to increasingly digital interactions – which also requires entirely different competences. In our service function, we have started a joint inquiry into the future job description or professional profile of librarians. We are working on a role map, identifying what different roles a librarian serving researchers will have in the future. We have had two workshops, completely our own, without outside help.

Researcher: This means that you actually do pursue your own future-making, from ground up. […] Where did the impulse for this come from?

K: Well, we know that the number of information specialists is going to decrease, and our librarians will have to broaden their scope of expertise. […] The mapping has created fears as to how can one librarian master all these roles. Of course, the issue is not that one person needs to master them; we need sufficient mastery in a collective. […] In this sense, we have here some of the knotworking-type thinking in that we don't expect that a single individual masters, for example, all the issues that come up in a visit to a research group – the individual needs to connect to and bring with him/her a colleague with complementary competences.

In their efforts to generate a role map for the future librarians, the practitioners are actively using and discussing the burgeoning literature on "liaison librarians" (Pasek, 2015; Rodwell and Fairbairn, 2008) and "embedded librarians" (Shumaker, 2012). For example, Pasek's mapping of the possible roles and connections of a liaison librarian has served as useful "second stimulus" (Sannino, 2015) in these efforts (Figure 1).

Figure 1 demonstrates the rather dramatic expansion of network connections and associated tasks foreseen for liaison librarians. On the other hand, the figure does
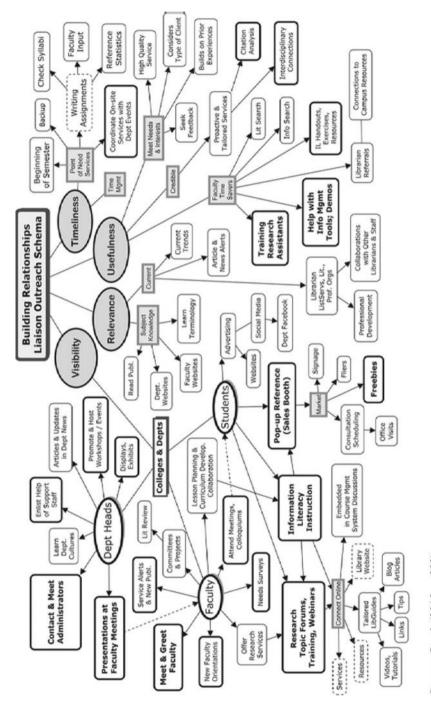
Source: Pasek (2015, p. 203)

Figure 1.
Concept map of
librarian liaison
activities and
relationships,
emphasizing
outreach approaches

not show clearly the expansion in depth; the generation and implementation of tailor-made services together with research groups is not made very visible.

Our data indicate that expansive learning initiated in the CL process is continuing among library practitioners. The new cycle of expansive learning is focused on creating and implementing digital services, often produced in collaboration with various outside agencies. The practitioners are responding to this by modeling their own collective future competences. This requires expansion in not only socio-spatial scope but also interactive depth. The dialectical tension and movement between these two dimensions of expansion is a current and future challenge for the practitioners.

8. Conclusion

The *RQ1* we posed in the Introduction was: To which extent can a Change Laboratory intervention help practitioners author their own learning? On the basis of our data, we argue that the idea of knotworking constructed in the CL process became a "germ cell" that generates novel solutions in the library activity. The concept of knotworking is intertwined with the new object of digital services for research groups. In generating such a germ cell, the CL intervention provided the practitioners with a powerful tool for authoring their own expansive learning in a long-term perspective.

RQ2 was: Are the authored outcomes of a Change Laboratory intervention futile if a workplace subsequently undergoes large-scale organizational transformations? We argue that the large-scale transformation from the local organization model developed in the CL process to the organization model of the entire university library was not experienced as a loss. The authorship generated in the CL process was so strongly driven by the construction of a new and materially grounded object that mourning for the short life of an intermediate local outcome such as the campus library organization model was not relevant. The dialectical tension between the local and global models became a source of movement driven by the emerging expansive object.

RQ3 was: Does the expansive learning authored in a Change Laboratory intervention survive large-scale organizational transformations, and if so, why does it survive and how? On the basis of our data, we argue that expansive learning is continuing among the library practitioners. The new cycle of expansive learning is focused on creating and implementing digital services produced using various outside agencies. In response to the challenge, the practitioners are modeling their own collective future competences by expanding them in both socio-spatial scope and interactive depth.

The findings presented above as answers to the three research questions give us grounds to put forward a tentative expanded definition of organizational authoring. First, we see organizational authoring primarily as a longitudinal authoring of change and learning. Qualitative changes in the object and concept of an activity require expansive learning. Authoring expansive learning is also necessarily a collective authoring of material transformations of the work activity, its object and its organization.

In light of our examination of the library case, organizational authorship emerges as a longitudinal and collective process of envisioning, designing and implementing material changes aimed at responding to historically accumulating tensions and opportunities in agentive and emancipatory ways. This notion of authorship is grounded in practical actions and material artifacts. Without underestimating the

importance of conversations and discourses, talk and words alone do not make a difference.

In this article, we sought to identify and examine dialectical tensions. Such tensions are indications of systemic contradictions in an activity. Contradictions are the driving force of change and development. In this sense, organizational authoring is foundationally seeing, analyzing and creatively remediating contradictions. To accomplish such authoring, a work community needs to learn a dialectical methodology of transforming itself, and researchers need to learn a dialectical methodology of facilitating, recording and analyzing such transformations. The emerging methodology of formative interventions (Engeström *et al.*, 2014) aims at meeting this dual challenge.

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