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The Interplay of Developmental and Dialogical Epistemologies

Ritva Engeström

Department of Behavioral Sciences, University of Helsinki, Finland

Abstract

The paper examines Developmental Work Research (DWR) –based interventions from the perspective of qualitative research. The motive comes from two directions. First, the DWR has turned the scientific focus quite early toward trans- and interdisciplinary collaboration and methodology. However, the approach has been recognized more through its intervention theory and practice, and less as a particular research design, which can contribute to qualitative research strategy. Second, there is a trend towards one-dimensional evidence-based approach, which foregrounds standards of methods in the context of new public management of science. The paper views developmental interventions as representing an alternative way of research with the practice-inspired methodology offering practice-based source of evidence. To examine more this alternative the paper deals with the question how developmental interventions can be considered research designs that make context and dialogue the basis of research. Considering the DWR methodology, the paper argues that although dialogue is central in actualizing an intervention, dialogical epistemology has remained as underdeveloped in the approach. The paper focuses on dialogicality and sense making in developmental interventions examining the processes of anchoring and objectification, object in relation to personal sense, and how the individual and collective processes are linked and coexist in the complex relationship between pragmatic activity and social processes. As illustrations of ideas, pieces of data from conducted developmental interventions are used.

Introduction

The paper examines the methodology of developmental work research (DWR) as a practice of re-thinking science. DWR assists in moving away from the decontextualized and disciplinary “segregated” model of science to an approach that is “integrated” with its social context. Nowotny, Scott and Gibbons (2001) have shown that the demand for contextualized knowledge historically reflects the increasing complexity of society. They argue that the close interaction of science and society signals the emergence of a new kind of science not only in terms of its research practices and institutions but also in its epistemological core. This shift means that additional demands and opportunities exist

for collaborating outside a disciplinary structure and for working with a wide array of expertise and people in different forms of social organizations. As studies on complexity have emphasized, complexity is not only a feature of the systems we study, but also the manner in which we organize our thinking about those systems (Tsoukas and Hatch 2001); a matter of how investigations are made on the components of a complex system and their relations.

Developmental interventions conducted in the framework of DWR (Engeström, Y., Lompscher & Rückriem, 2005) have turned the scientific focus quite early toward trans- and interdisciplinary collaboration and methodology. Moreover, by drawing from the theory of expansive learning (Engeström, Y., 1987), the methodology implies that the research partners who participate in the process of being accomplished by themselves reorganize creatively their thinking. While conceived as a transitory, intermediate kind of activity between science and work activities (society), expansive learning activity is provided with tools to challenge long-established practices and develop future-oriented explorations. To provide concrete tools for the projects within the developmental research and expansive learning framework, the change laboratory (CL) method was elaborated to enable developmental processes (Engeström, Y, Virkkunen, Helle, Pihlaja & Poikela, 1996).

In focusing on the DWR methodology, this study does not intend to adopt the view that considers DWR as a ready-to-use toolkit and consensually a “certified” method. My interest is in the process of meaning construction that entails new aspects of scientific inquiry (Nissen, 2012; Valsiner, 2003). The starting point of this examination is the idea that DWR/CL represents a practice-based methodology which takes context into careful consideration. Thus, the methodology offers a conceptual structure to enable most distinct contexts to be discerned and at the same time it is conceptually open and allows for analysis to be elaborated on the basis of the specific logic of every situated context (Mutanen, 2009). To put this view forward, I focus on dialogue as an important principle of joint research in DWR methodology. With an emphasis on dialogue, this paper suggests that dialogue has remained an underdeveloped aspect of the DWR methodology; dialogue and multivoicedness are often mentioned in accounts on DWR/CL but are rarely considered as concepts that entail dialogical epistemology (Markova, 2003; Engeström, 1995; 2005). In the forefront of re-thinking science, the present examination focuses on the interplay between the foundation of DWR and dialogical epistemology.

I shall focus this methodological examination on empirical practice of doing alternative science together with practitioners. The question is how developmental interventions can be considered research designs that carry beyond the conventional view of methods concerning data gathering and analytical work and make context and dialogue the basis of research. By elaborating on a dialogical stance as the resource of knowledge production, the research process itself is a joint mediated activity, in which knowledge advancements ensue in the complex relationship between pragmatic activity and social processes. In DWR, the intervention means that the practitioners, who are actors in an intervention, are performers (among other persons) in empirical data, which are gathered ethnographically, i.e., in the context of daily practice.

The paper starts with a brief introduction of DWR methodology on one hand and the dialogic approach on the other hand to clarify how these notions are used in the paper

and how we connect them together. Through the paper I am interested in the object of human conduct being outside and inside of human mind at the same time and what are the potential methodological implications of this view. In order to elaborate further a multi-voiced (tensioned) perspective to an analysis of developmental intervention, I reflect upon the notion of inter-object as compared to shared object. For illustrations of ideas, the paper includes pieces of data from empirical work in DWR projects.

The intervention framework and the dialogic approach

The idea of the DWR methodology is to bring together the daily practice of participating practitioners and analytical practice with tools of research. The practice-driven approach and the idea-driven construction of visions for the future presume each other and form a *purposeful blend* between different contexts of practitioners and academic researchers with a proposed means. In examining the relational processes of science and society, the special value of DWR is in its interest in the methodology of *parallel conceptualization and constructive facilitation of social transformations*. Basing from this relationship as an underpinning principle, DWR elaborates the intervention cycle of research, which consists of the following steps (Engeström, Y., 1999a):

1. Drawing on ethnographic evidence to question existing practices
2. Analyzing the historical origins of existing practices and bringing these analyses for consideration in assessing the current dynamics within and across activities
3. Modeling an alternative way of working
4. Examining the model to understand its dynamics, strengths, and pitfalls
5. Implementing the model and monitoring processes
6. Drawing on these data to reflect on the outcomes

The method of CL was elaborated as a tool of the intervention research cycle. CL comprises 7 to 10 sessions, in which the members of a workplace community participate to develop their work practices together with the researchers. Sessions are usually two to three hours' long and are conducted once or twice weekly. The CL method is characterized as an application of the double stimulation methodology, which comprises two sets of stimuli with different roles (Vygotsky, 1978). One set serves the function of the task (the first stimulus) on which the activity is directed, whereas the other set (the second stimulus) refers to the mediating means proposed or designed for solving a task. In DWR, these means are mainly of analytical nature and are drawn from cultural-historical activity theory (CHAT). The typical ones are the activity system model, historical analysis of inner contradictions, and steps in the expansive learning cycle (intervention research cycle). During an intervention, substance-specific concepts and pilots with practice as means for analyses are invented as well. Thus far, a variety of applications and modifications of the method have been developed on the basis of the work practice and research circumstances at stake.

In discussing dialogues, paying attention to the term “dialogue” itself is noteworthy. In their examination on “discoursing in activity,” Hiruma, Wells and Ball (2007) prefer the term “dialogue” to the ordinary term “talk” because dialogue can be taken to be a historically constituted activity, which also includes both verbal and non-verbal modes of

communication. Nevertheless, they decided to use the term “discourse” because dialogue is sometimes understood in the restricted sense of being in opposition to monologue. Grossen (2009) also maintains that “dialogic” is not synonymous with “interaction.” Based on dialogicality, any situation is constituted of a “here-and-now” and a “there-and-then” aspect of the encounter. This constitution means that a “here-and-now” situation (a peculiar view to interaction) is criss-crossed by other places and temporalities, as well as by absent third parties (a peculiar view to dialogue). Grossen (2009) states that the theoretical interest in dialogicality is precisely to capture the heterogeneity of situations, their “thickness” or “multi-layeredness” carried by other places and temporalities.

Based on her long-standing research on dialogue, Marková (2003) proposes that dialogicality is the fundamental capacity of the human mind to conceive, create, and communicate about social realities in terms of “otherness.” This definition means that speaking, thinking, knowing, and believing are conceived social processes embedded in history and culture. Therefore, knowledge is mutually constituted by individuals and “others,” who include communities, traditions, languages, institutions, and so on. In this broad context, Marková (2000) refers to Bakhtin’s (1981) work and maintains that dialogicality provides “a provocative dynamically and socio-culturally based” approach to human cognition and language, as well as an alternative to the mainstream conception that is largely based on static epistemology. Therefore, dialogicality brings about the epistemology of social change. In this historical view to language, a contradictory model of dialogic relations is also addressed in Bakhtin’s works (Morris, 1994). In language-based events, prior meanings encounter new elements of meaning that come into our social interest and that interrogate previous ones with tension (Volosinov, 1973). These conflicting, dialogical, processes display changing relevancies inscribed in the activities people come to know through practice (Engeström, 1999).

In the next section, we focus on the notion of object as an abstraction, which rejoins the framework of DWR–based intervention and dialogical approach. The aim is to elaborate a multi-voiced perspective in the analysis of the context in developmental intervention.

Objectifying: meeting the purpose of an actor

As known, the notion of *object* has a key role in approaching work practices in DWR–based interventions. In theory, the object carries and embodies the true motive of an activity, which is its meaning and purpose. The so-called object-oriented activity is conceived in DWR as a systemic formation (activity system) that includes division of labor and gains durability through institutionalization. The first principle in starting to make ethnographic evidence to question existing practices suggests following the object (Engeström, Y., Engeström & Kerosuo, 2003). The emphasis on the object in DWR research has now and then provoked claims, outside the framework, of contrasting or excluding *the subject*. The relevance of this suspicion obviously returns to the history of science in which objectification has functioned as an epistemological device to produce scientific knowledge and demarcate the line between scientific and common sense (or subjective) knowledge. Disengagement of the subject has been a profound idea in the humanities and social sciences until (action-based) experimental sciences by Vygotsky, Dewey, Lewin, and others.

By taking a dialogical perspective, Marková (2012, pp. 209–210) argues that in humanities and social sciences, objectification is linked to a new notion of subjectivity.

In this notion, “in and through language, objects enter into the scope of human vision, that is, they become things only in so far as they *undergo* human activity, and it is then that they obtain their designation, their names.” Humans choose aspects of things that are relevant for them emotionally, cognitively, or otherwise. The object of human conduct is reflexively constituted, being outside and inside at the same time. Methodologically, the object is considered as a construct, a human product that originates from using cultural means and systematic practices for rendering something an intelligible “thing” to work on. With respect to doing science, Knorr-Cetina (2001, p. 175) emphasizes that research work is particular in that the definition of things (the consciousness of problems, etc.) is deliberately looped through objects and the reaction occasioned by them. This condition creates dissociation between the self and the object, especially when the complexity of the studied phenomena grows, and “inserts moments of interruption and reflection into the performance of research.” Knorr-Cetina states that a challenge of research methodology is to approach “the practice in a way that accommodates this dissociation.”

The claim of the present paper is that the DWR design for studying change has properties for approaching and interrogating the dissociation between the subject and object by examining “things” in their reflexive context of being outside and inside at the same time. This dialectic has been elaborated by Marková (2000; 2004) through the dialogical processes of knowledge formation while entering newly experienced area, namely, *anchoring* and *objectification*. She draws on the theory of social representations (à la Moscovici) while defining the processes as follows:

- Anchoring is an inner-directed process that relies primarily on the individual’s experience and memory in classifying and naming newly understood and newly experienced phenomena. It functions as a stabilizing process that orientates the mind toward remaining in the existing state of knowledge.
- Objectification is an other- and outer-directed process during which a vague and unfamiliar idea becomes fixated and concretized. It is primarily a sense-making activity in which the individual, on the basis of his or her interpretation of events, reconstructs the existing contents of representations, creates new ones, and gives meanings to these new contents.

Anchoring and objectification are communicative processes. Marková (2004) remarks that we cannot predict how communication might turn out, and quite certainly, we cannot assume that communicative forces will resolve themselves in some kind of integration and progress. Compared with dialectic, which refers to the resolution of contradictory forces into a high and progressive unity, dialogue, by definition, does not lead to harmony or equilibrium but is filled with tension, which is self-renewing and self-innovating. In terms of epistemology, the essence of dialogue is the gap between two or more perspectives held together in tension, and the orientation for filling or overcoming this gap provides resources to create new knowledge (Wegerif, 2007). Marková (2004) views that we should conceive anchoring and objectification as juxtaposed or perhaps parallel in a way of transposing themselves into the other during their operation. In a dialogue, the partners both construe their intersubjective understanding, and at the same time, they remain as unique individuals who sustain and defend their independent positions within their interdependent relationship (Bakhtin, 1981; Lorino, Tricard & Clot, 2011).

Marková (2004) summarizes that anchoring appears to be epistemologically familiar and thus a simple concept. New phenomena are usually conceived in terms of what has been known already. Furthermore, research on language-based and interpretive activities are mainly designed in social sciences (such as in Garfinkel's ethnomethodology and Goffman's frame analysis) according to static epistemology for examining patterns of routine, norms, and mutual expectations in people's daily life, i.e., how social order is accomplished in everyday practice. A DWR-based intervention is assumed to offer a new kind of research design that invites a sense-making activity on the stage for developing new understandings and expectations. In such a design, participants are put to construct their interpretations of events by searching for new meanings, reinterpreting phenomena, and creating new ideas. Basing from this assumption, I shall focus on and analyze some pieces of information from different developmental intervention contexts in the next section.

Anchoring and objectification as examined

DWR-based interventions are usually considered from the perspective of developing work practices that are the object of intervention. These processes are rarely considered from the perspective of research, which uses a *dialogical stance* as the basis of knowledge production. In this section, I shall take advantage of the defined distinction between anchoring and objectification and approach developmental interventions through their processes and interplay. I use data examples from the conducted DWR-based interventions. The purpose here is not to contribute to the analysis of work practices or outcomes achieved through the CL or developmental intervention in question but to display for further reflection how DWR/CL processes are accompanied by complex relationships between multiple perspectives and elements of complexity.

I begin with the remarks concerning the nature of data-gathering methods in qualitative research. As noted in many academic publications on the analyses of DWR/CL projects, participants are provided with a mirror, which entails ethnographic data on the activity to be jointly examined during the intervention. In constructing the mirror, the most commonly used method is video recording and active interviewing in online activities (using video also), as well as interviewing people outside the activities. This data-gathering practice points to a crucial difference between what people say they do and what they do. Instead of or aside from the actor's own frame of reference (inner directed), video provides a shared outer-directed reference while promoting reflective conversations and discussions among participants. From the point of view of stimulated recall method (Lyle, 2003) in data gathering, the aim of using video recording is not to recall the event as it originally appeared in the consciousness of the individual involved but to mediate and transform the experience into an object of inquiry (Engeström & Heikinheimo, 2010). This use of the method distances us from our experience (deconstructing experience) but at the same time brings us close to it, makes us increasingly familiar with the events involved, and allows us to reconstruct the meaning of the experience (Touchon, 2007). Thus, the way of using the stimulated recall method in DWR does not rely on thinking aloud or cognitive approach to past thinking but declares an alternative qualitative method for studying human mind which renders the thoughts analyzable and reportable "things" that emerge from direct viewing and elicit actors' interpretations that are produced in research dialogue.

I present three data examples which are integrated with viewing video recorded data (and/or their transcripts). The first example is a conversation in a CL session, which belongs to the project, *Crossing boundaries in order to help families with children* (Engeström, Poikela, Karvinen-Niinikoski, 2006). The second example is from the CL project, *Crossing boundaries in health care for patients with multiple and chronic illnesses* (Engeström, Y. et al., 2003; Kerosuo, 2006). The third example is taken from a project on teachers' work in a comprehensive school. In this project, the teachers worked on a new national program for students who encountered difficulties being motivated in their daily schooling work, had an extensive amount of absences, or performed under their achievement level. The project was called *Crossing between inside and outside school in flexible education program* (Engeström, Hietanen & Kosonen, submitted).

Example 1

The CL project was established to investigate a new model of co-configuration between different sectors of welfare activities in a city with a population of 45,000 people. The goal of the project was to re-think the practices of professionals who worked with clients needing services delivered by many different service providers (social work, youth work, family counseling, children's special day care, and health care). The CL worked on client cases, which practitioners experienced laborious. The members of the CL were managers of different activity departments and practitioners of every client case examined in the session¹.

In our example, the mother is 22 years old and started drug use in junior middle school; the father is 33 years old and had a longer history of drug use than the mother. The mother expressed in the interview that drugs had been their pursuit as a couple from the beginning of their life together. The situation changed because of the mother's unexpected pregnancy. They contacted social work office to obtain appropriate housing. As a consequence, the family became a client of social work, and the mother entered maternity home during the last months of her pregnancy to cut her drug use. When the baby was born, the family workers (day-to-day helpers) under the auspices and with the help of a social worker (responsible for the provided services) worked to help the parents at home and to prevent changes in custody of the child as a result of the drug issue. Data gathering of the project started when the mother was in the maternity home and continued to the time when the baby was a year old. The conversation below took place in the CL session, in which the practitioners (two family workers) reported on their actions and plans to the CL participants while watching the mirror data (video recording of a client meeting). The family workers clarified their target actions in the next conversation:

FAMILY WORKER 1: It is not necessarily clear for all of you that the father has another family, his previous one, whose mother he meets – you can say – more often than once a week and stays there overnight.

RESEARCHER: What do you think? *Do we have a family here* in this case?

¹ The original idea was to invite also a client to be present in the CL sessions. The data gathering revealed, however, that individual members of families had difficulties to be open in the interviews if his/her spouse gets to know the content of interview in the session.

FAMILY WORKERS 1 AND 2 (orchestrating): *No, at least in our opinion.* A family is just the mother's desire.

RESEARCHER: What do you call it then?

FAMILY WORKER 1: Their wish, both of them, is to be a family at this moment, as we have discussed together. A week before, they wanted to get divorced. Both called in and expressed that they want to get their own housing. Well, we are supporting this request if they have decided to proceed in this way. However, *they want to be like a family, and we support this if they want to raise a family.*

SOCIAL WORKER: Certainly, the main condition for this support is that the mother should stay without drugs and be clean in tests.

FAMILY WORKER 2: The mother is scared that the father actually wants her to resort to drugs, get their baby, and continue life with his previous wife and their shared children. This is the mother's nightmare.

In the conversation, the CL participants encountered new phenomena of human relations, which are quite complex to deal with and discuss. Although the practitioners certainly denied the naming of *family*, they continued to make sense of their work by using this naming and orientating minds toward the existing state of knowledge. Anchoring these newly experienced phenomena was strongly backed up by institutional elements of activity: the structural unit of organization had a heading of *family work*, and the service providers were called *family workers*. This stabilizing process and its relation to developing social work practice became visible through dialogic-mediated intervention and led the project to re-think the boundaries to be crossed.

Example 2

Example 2 is taken from an event of intervention that occurred as a result of more than one CL processes. In these processes, concrete tools were designed to cross boundaries and negotiate among medical specialists in health care for patients with multiple and chronic illnesses. The target of the project was to re-tool the collaboration between the distributed actors of clinical work. The example is from an encounter among a doctor, a nurse, and a patient. In the context of the CL in progress, the encounter was an extended future-oriented experiment with a new tool and represented deviation from a routine consultation. With this experiment of applying a new tool, the doctor was at the same time preparing his patient case for the next CL session to be shared by the CL participants. The tool was called "a care map" designed to facilitate comprehensive understanding of the patient's problem through a mapping of all expertise that had participated and were participating in the patient's care. In the example, the personal doctor (in rheumatology, which was the area of the chief diagnosis of the patient in question) conferred the use of the new tool with a nurse (from the clinic of rheumatology) and with a patient who was also participating in the CL sessions dealing with her case. The researcher was present in the event for video recording and interviewing.

NURSE: She [refers to the present patient] called me with tears in her eyes that they had left her.

PATIENT: Yes.

NURSE: Like it is still some kind of oppressive feeling for you, certainly.

DOCTOR: Yes, let's order those documents, where?

PATIENT: Well, I visited the place, the outpatient clinic [injury urgent clinic].

DOCTOR: Here, one could make, *I could really make a fool of myself for ordering those documents like that*, then I would sabotage [the developmental intervention]

NURSE: yes you would, yes you would

DOCTOR: Well, there is one possibility. If one says that we are clearing up this collaboration and that is why we need those documents.

[Encounter at the clinic of rheumatology]

In the example, *they had left her* means that the outpatient clinic of another area of medical specialization (orthopedics) gave up on the patient, i.e., left her without a following visit or referral (based on the chief diagnosis). In experimenting with a new negotiated way of clinical work among experts, the doctor confronted “a new area” with an invisible stabilizing process of a collegial script (*I could really make a fool of myself*) that foregrounds the ethos and structure of autonomy among medical professions, i.e., provides the practice with rules of collaboration. While reflecting this concern in the conversation, the doctor invented a rescuing language-based resource in dissociating himself from the community of medical experts, its identities, and modes of talk and in associating himself with the community of intervention research (CL). This observation calls for the notion of “discursive hybridity,” which refers to means of shifting modalities (e.g., levels of identity, modes of talk, socialization into communities of practice). Similar to what Roberts and Sarangi have reported (1999), a specific activity (in our case, a purposeful blend of research and practice) sparks off hybridity, and this in turn reveals the exact nature of the activity in which the practitioners are involved (collaboration between the distributed actors of clinical work). In the example, we can see how anchoring and objectification are as juxtaposed “in a way of transposing itself into the other during their operation in concrete situation,” as Marková has addressed.

Example 3

Our third example is from a project that examined the implementation of a national program called, *Flexible education in the comprehensive level of schooling* (JOPO). This program draws from productive learning ideas, which extend school to multiple activity-based environments. With these JOPO classes in the normal school system, the aim is to afford students living in a risk of marginalization to obtain certificates of completion from their comprehensive school and render them secondary educational opportunities. In practice, students (who are 8th and 9th graders) go out from school to a range of workplaces during some periods of the school year. The interviews indicated that the main focus of the teachers is “to re-construct the personality of a young person who had become ruined.” The researchers followed by video-recording everyday activities of two classes in different schools. They gathered with the teachers for reflection meetings, which the researchers prepared by making questions based on some transcribed pieces of video. The aim was to develop practices of this new school program.

The example is from a meeting in which the question was about teachers’ practices in assessing their students’ performance. The stimulus to this topic emerged from a video recording where the students, who just returned from their outside school period, sat in a circle with their teachers. In the video, they discussed and shared their experiences in workplaces, both failures and successes. Outside the school, students mostly garnered good evaluations and feedback. In the reflective meeting, the teacher responded to the researcher’s question on an assessment:

TEACHER: This is essential contradiction, which returns to comprehensive school and a double-sided mission. The assessment is basically supposed to guide and motivate students. Well, you have to take into account individual students and all other beautiful things. Doing so is great. However, we come to that point in which the meaning of assessment becomes putting all students in the country *on the same line to be comparable with one another*. Then, the talk about all beautiful things is suddenly over. The individual circumstances of students are not considered anymore because of the question of certification, which the students use when they look for educational opportunities.

In the example, the teacher refers to the existing practice of assessment with words that express how the students are treated equally (*on the same line*). Finnish schools have a summative assessment with ratings ranging from four (disapproved) to ten. The assessment practice has not been adjusted according to the new program. Learning at work in the sense of participating in a range of practices outside the school, the performance in such practices, and evaluations are not taken into account in the final certificate. The students may typically raise their academic grades from five (or disapproved) to seven at their best and are showing radical change in their attitude toward future life as a result of two years' work with their teachers. However, their position with regard to their chances of obtaining educational opportunities in secondary institutions does not advance in comparable situations with other students. In the current national policy, the emphasis on preventive practice that concerns the marginalization of children and the recognition of diversity points toward equity in education. Although equity or democracy as a phenomenon has changed, these concepts carry meanings that remain unchanged in education and imply a strong belief that the school system treats every child with individual recognition. As Gutiérrez (2008, 148) remarks, such policies or reforms that employ the *sameness as fairness* principle easily roll back small gains in educational equity and implement one-size-fits-all curricula and policies driven by high-stakes assessment.

As we have seen in our examples, their research design is provided with a hybrid context of sense making. Such a design constitutes of multiple voices and intervening practices invented and implemented partly in the intervention processes. The research design is a way of re-arranging things in both a material and discursive sense and collecting and presenting data as occurring in an ecologically valid context where the cognitive, social, and historical realities and practices of the participants are involved.

Inter-object in developmental interventions

We have aimed at shedding light on research design in which context and dialogue form the basis of producing scientific observations. The design is practice-based from two directions. Firstly, an intervention is taking place in environment where participating practitioners are connected to their daily work with objectives of having an effect on working practices. Secondly, research itself is conceived practice, which emerges through the processes of human conduct and is inventive in contextualizing observations in progress. The researchers are in the position of holding up interpretive processes, disconnecting and reconnecting interpretations, and making visible that what is unseen. The position does not, however, make them neutral (voiceless) in holding up interpretive processes in interaction with the practitioners (and patients, clients, students). In accommodating their voices, the researchers' vocabularies and tools of representation

and analyses as well are dialogically related to the practical issues being reformed with/in these processes.

In the beginning of this paper, we considered that DWR/CL methodology has adopted a conceptual structure for discerning contexts, and on other hand, it is open and allows for elaborating the analysis based on own logic of every situated context. Within a conceptual structure, the focus in studying distributed or collaborative work is recommended to be on the *shared object* that is depicted in many DWR publications as a space, which connects separate activity systems. Beyond this space, we encounter a process of making “things” shared through a variety of views, conflicting minds and creative uses of cultural and interactional resources, which are made more complex by the interaction of multiple sets of institutional actors. In order to elaborate further a multi-voiced (tensioned) perspective to an analysis of context in a developmental intervention, I suggest that there is another dimension to be acknowledged as a conceptual structure. I call it *inter-object* (see more later). To approach a purposeful blend between different perspectives and contexts of practitioners and researchers I draw upon discursive hybridity and shall experiment with the idea of using the activity system structure for the former example 2 (see the preceding section).

As we proposed before, discursive hybridity captures heterogeneous, crossing and overlapping activities and their mixed language-based or material repertoires. In intervention, hybridity points to mechanisms of a poly-contextual setting where contexts are connected to shifting processes but supported by living, responsive, dialogic relations (Roberts & Sarangi, 1999). In our example, we can specify from the perspective of a CL member (clinical practitioner) three different activities, according to the object, as constituting the discursive hybridity of intervention. The activities are: *practical activity* (the object is the patient’s health problems and how to design a care plan), *developmental activity* (the object is re-tooling the collaboration between the distributed actors of clinical work), and *reflective activity* (the object is to make sense of the event, i.e., the agency negotiation) (see Figure 1).

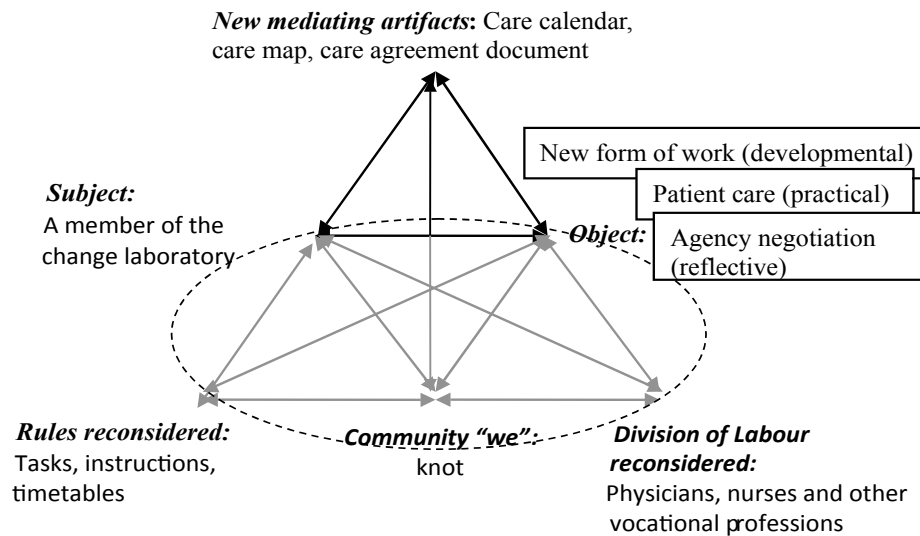


Figure 1. Change Laboratory as a hybrid activity setting

Figure 1 shows CL activity, which was designated by the project an “implementation laboratory” referring to its role in the developmental cycle composed of more than one CL (Kerosuo, 2006). This role becomes apparent also in the tools under the title of “new mediating artifacts” which were partly designed in the former CL (“boundary crossing laboratory”) of the cycle. The task of Figure 1 is to inform analytical work about a setting, which displays multilayered and –voiced nature of different object-related activities mediated with their object-specific means. A weakness of qualitative research, pointed out by Yin (2009) concerning case study strategy, is that studies explicate quite rarely any analytical framework for contextualizing the evidence that is to be analyzed. Around the data, our interest turned (see the preceding section) on the subjective connection between the objects made by the doctor (*I could really make a fool of myself*) in a typical situation of a developmental intervention, which represents a blend of elements familiar from existing practices and new elements brought in (“new mediating artifacts” in the figure). In acting, a participant (the senior rheumatologist in the excerpt) connects between people, objects, and phenomena that surround him as a person in the time and space both of current and previous or anticipated events (Bratus, 2005). The doctor’s comment refers to a collegial script as a mediating means of clinical collaboration; a feature which is involved in the historically constituted mechanism of collaboration in medical expertise. The event informs about micro-genesis of novel solutions and the obstacles that will be met during transformation processes (Engeström, Y., 1999a). In their analysis on new collaborative forms in medical profession, Adler, Kwon and Heckscher (2008, p. 369) also warn us that we should not underestimate the difficulties facing propagation of the new form of organization. The ethos and structure of autonomy among the liberal professions create a powerful counterweight to re-

organizing medical communities in the way, which requires crossing boundaries toward more broader and denser interdependencies of collaborative community.

These kinds of empirical findings based on the individually expressed and emotionally experienced interpretations of subjects make visible the phenomena, which concern, using the term by Gutiérrez, Rymes and Larson (1995), “underlife” of activities, which refers to the borderlines of multiple, layered, and conflicting activity systems with various interconnections. Those activities seem to have the remarkable sense-making character of the seemingly unrelated processes. As Gutiérrez (2008) argues, the focus on those processes provides the research with devices to identify productive and unproductive aspects of developmental cycles, and to see the sites of possibility and contradiction; processes, which are potentially marked by new forms of participation and activity. Akkerman et al. (2006) have also shown in their study of a collaborative intercultural research project that participants do not come to explore each other’s thought worlds routinely, even if participating in a collaborative setting. Concerning boundaries as dialogical phenomena, their finding is that “the meaning-generating effect of diversity” cannot be presupposed; rather the focus should be put on the participants’ awareness of boundaries to be crossed in entering a new configuration of an activity.

From the perspective of qualitative research strategy, inter-object puts us in front of attending to processes across a range of contexts “with one eye focused on the collective and the other on individual sense-making activity” in order to note forms of activity which are filled with unresolved tensions or dilemmas (Gutiérrez, 2008, p. 152). In order to avoid in research the dichotomy of individual and collective planes of activity, the challenge for the DWR methodology is to pay more attention to the subjective mechanisms allowing for individual participation in collective processes and entering *an expansive space* where the potential for the development of new knowledge is heightened. In other words, the challenge is to figure out how human subjectivity can be conceptualized on the ontological foundation as an agentive and inherently necessary moment within unfolding activity processes (Stetsenko 2005). Concerning DWR foundation, my argument is that the *internal dialectics* of the hierarchical organization of motives and human functioning (proposed by Leontiev) as a feature of the activity system (the unit of analysis) (Engeström, Y., 1987) do not resolve the issue of subjectivity within the DWR methodology (Engeström, 2009). Therefore, the question of how to address the “individual” subject that does not appear as a dualistic opposition to “collective” requires more attention.

Sense making: collective or individual activity

The main tenets of DWR methodology were invented through critical thinking and in contrast to goal-directed actions as the prevailing key to understanding human functioning and regarded as the unit of analysis (Engeström, Y., 1999b, pp. 22–23). The activity system model was elaborated in order to “solve difficulties in accounting for the socially distributed or collective aspects of purposeful human behavior” and extending the analysis to collective dimension. Thus, the scheme (proposed by Leontiev) was conceived a unified system of relations and processes which comprises three levels: an object (motive) -related “activity” as a superior and collective level of analysis (a unit of analysis); an individually accomplished goal-directed “action”; and an “operation” representing instrumental circumstances. Correspondingly, the triadic process includes three levels of the subject in an activity system (collective, individual, and non-

conscious) (Engeström, Y., 1987, p. 154). This structural design for studying human functioning has given rise to critical (theoretical) comments, which point to, e.g., conceiving “action” as subordinated to larger, collective purposes (Bakhurst, 2009) or losing the subjective connection to “motive” (Nissen, 2011).

The developmental intervention as a joint mediated activity offers a good scene for pondering the theoretical-methodological question concerning collective activity as the unit of analysis for studying human functioning. As it was pointed ahead, the DWR design has properties to examine “things” in their reflexive context of being outside and inside of human mind at the same time. In our conceptual structure (Figure 1), inter-object allows for recognizing reflective activity, which is done by the means of sense making. On the other hand, these means are both cultural artifacts and individually experienced interpretations of subjects, having linkages of past events to the present of “biographically active persons” (Gubrium, 1993). Thus, the means bring about the relevance of a notion of *personal sense*. The notion originates from the works of Leontiev (1978) who makes a distinction between social meaning (Bedeutung) and personal sense (Sinn) (see e.g. Nissen, 2011). The concept has been proposed, however, to substantially involve original ambiguity. Bratus (2005, 33–34), a student of Leontiev, expresses that in the hierarchical organization of motives (“in which the motive is an object of activity”), personal sense is easily interpreted as secondary in relation to significances, which are generalized reflections of reality (social meanings) that have been worked out by humanity and embodied in the form of a concept or knowledge. As the sense were locked up inside activity and serving object-related activity.

Contesting a secondary meaning of personal sense in the conceptual framework of activity, Bratus argues that the sense is not so much object-related as inter-object. Its synonym is ‘connection’, or ‘subjective connection’, which is subjectively established and personally experienced connection between people, objects, and phenomena that surround a person in the time and space (also shown in our example of discursive hybridity). In other words according to Bratus, sense does link and connect and sometimes, in the most unexpected fashion, is weaving the most varied patterns of knots and nodules in the fabric of life. In regard to an activity system, inter-object turns our attention to hybridities, which evolve in a joint activity.

To take a position of empirical research, the conceptual ambiguity of personal sense does not seem to have, in the first place, a critical effect on DWR/CL research because the video recorded and interviewed data on human functioning have without doubt a nature of individually performed actions including the aspect of sense making. If we draw, epistemologically, on dialogue, in which meanings require a concrete and situated encounter, we reach dialectic from dialogue after we have removed the concrete appropriation of meanings and after we have started treating concrete meanings as abstract relations (Marková, 2004, p. 78). Basing from this view, I argue for the “immanent content” of the activity system as a unit of analysis, considering it conceptually as a *collective* activity “in itself” (see Ilyenkov, 1982, p. 102) which does not include different levels of the subject (hierarchical organization of motives). Actions, instead, performed by individual subject require a unit of analysis, which is appropriate for an analysis of concrete appropriation of social meanings. In this, often data-driven, unit, actions can have analytical independence in the methodology, which provides a unified system of relations and processes, that is, a conceptual structure for understanding dynamics of a poly-contextual setting. Although the processes are

dialectically connected, i.e., conceived dependent upon and—at the same time—conditioning and influencing each other, the qualitative study can have the focus on creative configurations of individual actions; also captured as processual organizations of an event. Thus, having elaborated methods to invite a sense-making activity on the stage for developing new meanings a DWR-based intervention can be conceived a research design in which the individual and collective processes are linked and coexist in the complex relationship between pragmatic activity and social processes.

Most importantly, the (collective) unit of activity should reflect conceptually and epistemologically the thesis that subjectivity and society differ in the specific mechanisms of their realization, in their degree of generality, in their power, and in their role in the genesis of practice (with the inter-subjective level of practice being historically and ontogenetically prior to the intra-subjective level) – as pointed by Stetsenko (2005, p. 84). To understand human subjectivity on its ontological foundation does not mean to turn back to methodological individualism, instead, the interplay of developmental and dialogical epistemologies promotes practice-based and -inspired methodology. Analyses of sense making require a dynamic, detailed notion of context, which evolves as a concrete and situated event within culturally mediated social processes. From a sense-making vantage point, the activity system model can be seen to function in developmental interventions (DWR) as a sign-creating anchor and a shared reference for participants who have multiple practice-bound experiences (Engeström, 2009)². Thus, in general and to be reminded, having the nature of conceptual tool for meaning construction and research, the model's ontological status is abstract and allows for iterative re-thinking of its use, rather than being “real” in the world outside.

At least two issues in doing qualitative research in context of the interplay between developmental and dialogical epistemologies can be raised as concrete targets. First, the challenge of DWR studies is to invent novel ideas of the analytical methods, which correspond to the nature of data and research design. There is an obvious need for more examples which go beyond the conventional methods. In qualitative research in general, Silverman (2006) encourages researchers to elaborate the relationship between analytic perspectives and methodological issues in the way that surpasses “a purely ‘cookbook’ version of research methods.” Second, ethical issues are present in activities which make people committed to change processes and also which are carrying out research based on video recordings. There are new issues related to anonymity, consent to be video recorded, and understanding video representations. DWR researchers are in a good position to devote their scientific communities and themselves to more deliberate discourse on scientific ethics.

² The activity system model allows for being constructed by the researchers on the basis of every particular activity as an object-driven complex that carries longitudinal and historical aspects of human functioning (Leontiev, 1978); or on the basis of a new configuration of activity of which social structure does not have history but interrogates historical dimensions of interacting activities. The model has been used as a tool (and theory) of research for identifying different activities and recognizing their boundaries.

Discussion

This paper has aimed to explicate alternative research conducted in and through DWR-based developmental interventions. The research tradition of DWR has been recognized more through its intervention practice, but has been less examined as a particular qualitative research strategy. Moving away from the “decontextualized” science toward a close interaction of science and society, DWR studies have challenged observational principles with a purposeful blend between different contexts of practitioners and academic researchers with a means, which have grounds in activity theory. The paper suggests that the interplay of developmental and dialogical epistemologies provides foundation for responding to the methodological challenges and opportunities that this move brings about. In DWR context, the paper examined object in subject –relation which prepares toward reflexive model of science on the one hand and allows for a counter-process which originates at the object, the changing world, and our newly encountered social interest (Raeithel, 1992).

The examination of the interplay of developmental and dialogical epistemologies called forth the different dialogical processes of knowledge formation and sense making while encountering change. Each of the two processes, anchoring and objectification, plays a different role in generating understandings. Marková (2004) suggests that *hegemonic* representations rely on anchoring. In contrast, *polemical* representations privilege objectification and the negotiation of new meanings in public discourse. Anchoring appears to be epistemologically familiar and studied in humanities and social sciences, whereas objectification challenges research. In a trend of research towards one-dimensional evidence-based approach, which foregrounds effective measurable methods in the context of new public management of science (Schatz & Schatz, 2003), developmental interventions are viewed, in this paper, representing methodology of practice-inspired qualitative research which provides different source of evidence. Developmental interventions include reflexivity on social knowledge and on what counts as knowledge in generating new understandings of phenomena in society.

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About the author

Ritva Engeström is based at the Institute of Behavioral Sciences and the Center for Research on Activity, Development and Learning (CRADLE), University of Helsinki. Her research centers on intervention research, interpretive methods and research collaboration in the framework of cultural-historical activity theory. The fields of research are education, social work and health care.

Contact: Institute of Behavioral Sciences, P.O. Box 9, 00014 University of Helsinki, Finland, Email: ritva.engestrom@helsinki.fi