Re-visiting the past: How documentary practices serve as means to shape team performance at an IT help desk

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A B S T R A C T

This study investigates learning at an IT help desk in a multinational production company, a work practice that has not yet been given much research attention despite its importance in many areas of society. IT help desks heavily rely on different forms of documentation for sustaining their practice and for maintaining their communication and expertise as a team. In the study, we explore how the documentation in a case management software, which is a very salient tool by means of which IT help desks perform their work, is being reused to shape the quality of the performance of the team. Through video observations of locally arranged discussions about 46 cases we analyze, in detail, the material, discursive and interactional means by which daily documentation of work is re-visited for learning purposes.

1. Introduction

In sociocultural theory, the role of semiotic means in human activity is foundational for learning and cultural change (Vygotsky, 1997; Wertsch, 1998). Different forms of inscriptions are, for instance, understood as salient for coordinating social practices, for preserving information over time and for developing knowledge collectively (Mäkitalo, 2012; Säljö, 2012). The analytic interest in the mediating role of such means has gained new currency when exploring emerging cultural practices in the wake of what has been called the information age (Castells, 1996). One such practice that has not yet been given much research attention is the IT help desk — a practice that is ubiquitous in many people's lives, and yet still largely hidden from public view. Help desks have increasingly come to play an important role in ensuring that organizational networking systems and technologies are working properly, and that individual users are assisted when experiencing troubles with technologies. Our current knowledge, however, of how help desk teams perform their work, how they coordinate their activities and what is required of them to keep systems and networks up and running is very limited. The literature on help desks has a strong focus on productivity and has primarily dealt with issues of how to develop systems that may serve as means to store and disseminate information in the delivery of IT support. Knowledge management strategies, technical solutions to speed up work and make problem solving more efficient as well as ways of measuring the performance of employees are the issues in focus in the literature (Das, 2003; Davenport & Klahr, 1998; Gray, 2001; Gray & Durcikova, 2006; Leung & Lau, 2006; Marcella & Middleton, 1996). Empirical research in this field, typically engages in the design of knowledge management systems[1] (Chan, Chen, & Geng, 2000; González, Giachetti, & Ramirez, 2005; Heras et al., 2009; Simoudis, 1992) and studies of the implementation and use of such systems (Ackerman & Halverson, 2004; Castellani, Grasso, O'Neill, & Roulland, 2009; Halverson, Erickson, & Ackerman, 2004). There are also studies that have client relations in focus since service delivery is a critical aspect of productivity (see for instance McBride, 2009; Quayle & Durrheim, 2006). A recurrent conclusion from the studies conducted in this field is that the local structure, culture and

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  [1] From a sociocultural perspective, such systems are built for managing information rather than knowledge. Issues concern the functionality of systems for information storage, retrieval and shared availability for users.

communication of the team are critical for the efficiency of help desk practices. Since such practices are increasingly performed in shifts around the clock (to meet organizational demands in a global market), the quality and efficiency of help desk work heavily rely on the communication and collective organization of the team (Spence & Reddy, 2012). Systems for sharing solutions as well as possibilities of documenting steps taken in ongoing problem solving processes are clearly critical elements for such practices to be able to function smoothly. The focus on knowledge management systems within this field thus seems to echo these concerns. Still, little is known about the ways team members collaborate and communicate in such local practices and their uses of, and reliance on, particular kinds of documentation for the maintenance of help desk practices. One question that has not yet received much attention is how such teams draw on knowledge management systems to perform their tasks and enhance their work.

The present study is part of a research project[2] where this general question has been explored in a help desk practice at a multinational production company. At this particular help desk several strategies in the social organization of knowing were identified; overlapping activities, redundancy of information and a future orientation to potential problems and alternative scenarios enabled the team to maintain the continuity of work (Eklund, Mäkitalo, & Säljö, 2010). A number of activities were identified as critical for achieving continuity and they relied on documentation of everyday work, or what we will refer to as documentary practices (i.e. documentation for record keeping and reporting). In the daily activity of problem solving, for instance, a case management software was used for the documentation of every step taken in such work. By enabling recapitulation of the actions taken up to the point in question, through the written media, important premises for pursuing the problem solving process over shifts were settled. The second documentary practice that we identified was the use of a shift report that served the particular purpose of organizing and securing shift handovers. Entries on the shift report covered other issues that were important to initiate and follow up and they were checked in a systematic manner. The idea was to report what had happened during earlier shifts regarding issues of network maintenance and service along with advice received from so called back offices with specific expertise in systems and applications (Eklund et al., 2010). The third documentary practice that team members engaged in was provided by means of a web hotel where they shared some information and solutions to technical problems. So, while the former two documentary practices supported the ongoing organization of everyday work, the latter could be seen as an attempt to build up resources for a shared body of professional knowledge, potentially useful across cases and local settings. Teamwork in this setting was accordingly pursued through a set of related social activities that relied on documentary practices. Team members were pursuing work by invoking and drawing on the past actions and experiences of the team in appropriate and skilled manners (Eklund et al., 2010).

During our empirical studies we noted that the documentation that was saved in the case management system also served as the basis for arranging a separate and highly reflexive communicative activity.[3] The local quality team (QT) reviewed the case documentation in systematic ways and re-used it in a specific activity they arranged for learning purposes which locally was referred to as the case studio. This kind of discursive meta-activities is of general interest for sociocultural studies of learning and interaction, since they seem to become more salient in a society where actions performed are digitally stored and easily retrieved and shared with others.[4] For our project, this activity also provided an opportunity to learn more about the IT help desk as a practice and how it needs to be organized to meet current expectations and demands. Our aims in this study, are to describe recurrent features of this discursive meta-activity and to analyze the use of the case documentation in terms of the analytic notion of semiotic remediation (see below), i.e. in what ways such daily inscriptions come to serve as a means for learning. Empirically, we were guided by the following research questions:

· How is this discursive meta-activity organized?
· How is the case documentation used to mediate issues of concern?
· How is the discussion of past events used to shape future teamwork?

However, before attending to our empirical study, we would like to account for our theoretical perspective by drawing on relevant analytical insights from research with an interest in communication, material–semiotic means and remediation in collaborative activities.

2. Semiotic remediation in collaborative activities

In line with a sociocultural perspective, the documentary practices at the IT help desk, are understood as externalizations of human knowing (Säljö, 2010). Such documentation constitutes current forms of cultural inscription, generated from a pragmatic need to organize work collectively over time, to be able to recapitulate earlier action and account for what are considered relevant concerns in order to maintain the joint activity for the future (Mäkitalo, 2012). The notion of semiotic remediation that frames our analysis in this article refers to "the diverse ways that humans' and nonhumans' semiotic performances are re-represented and reused across modes, media, and chains of activity" (Prior, Hengst, Roozen, & Shipka, 2006, p. 733). In our case, such semiotic remediation concerns how the case documentation is re-presented and reused as a constitutive element in the discursive meta-activity.

As resources for communication and action, semiotic means necessarily take on some material form (Wertsch, 1998). Certain distinctions and categories for organizing digital information are for instance necessary to be able to create any kind of software, database or archive. Such distinctions will generate certain premises for people's interaction with such means and become salient as

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[3] It was highly reflexive in the sense that it was arranged to revisit and review past actions through the available documentation, but also to discuss the quality of that documentation to communicate actions taken.
[4] See for instance the discussion on the textualization of work in Scheeres (2007); or on electronic archives as devices for remembering in Brown et al. (2001).