

Communicating Knowing Through Communities of Practice: Exploring Internal Communicative Processes and Differences Among CoPs

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Knowing is an enacted, communicated process that is difficult to observe, let alone manage, in organizations. Communities of practice (CoPs) offer a productive solution for improving knowledge and knowledge management, but the communicative processes that enact CoPs have not been explored, leaving CoPs as an organizational black box. This research extends CoP theory as a means to determine the presence of a CoP and distinguish between various CoPs, and as a practical means to evaluate the communicative processes of organizational knowledge. CoPs enact the communicative nature of knowing through the elements of mutual engagement, negotiation of a joint enterprise, and shared repertoire. Specifically, two groups of volunteers are examined through a combination of participation, observation, and interviews in order to explore CoP theory as a dynamic system for examining and evaluating organizational knowledge.

Keywords: Communication; Communities of Practice; Knowledge; Knowledge Management; Organizational Communication; Volunteers

Studies of communities of practice (CoPs), and managerial attempts to create, support, and profit from such communities, have become more widespread as scholars have moved to a processual, interaction-based conception of organizational knowledge (Brown & Duguid, 1996, 2000; Cook & Brown, 1999; T. H. Davenport & Prusak, 2000; Orlikowski, 2002), “highlighting the essential role of situated action in

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constituting knowing in practice” (Orlikowski, p. 271). Several communication scholars (Heaton & Taylor, 2002; Iverson & McPhee, 2002; Kuhn, 2002; Vaast, 2004; Zorn & Taylor, 2003) draw upon CoPs to describe the localized, interactive nature of knowledge in organizations (Lave & Wenger, 1991) and as a means for exploring the communicative nature of knowledge. We believe that these valuable research efforts have focused primarily on CoPs as *proof* of the constitutive and communicative nature of knowledge while bypassing the question of the communicative processes that constitute CoPs (Iverson & McPhee; Vaast excepted), despite the immense variety of groups given the CoP label (E. Davenport & Hall, 2002).

Because of the conceptual proliferation and because the multitude of groups analyzed as CoPs ranges from whole professions, such as nursing, to small groups in single organizations, three conceptual problems arise.

First, scholars often use the term “community of practice” as though the nature of a CoP, and the fact that a group or collective qualifies to be called that, is self-evident. For instance, Kuhn (2002) uses “CoP” as an overall label, contrasting it with other organizational structures and not drawing implications from a more detailed conceptual analysis. Heaton and Taylor (2002) label the organizations that they discuss as CoPs, but then take their analysis in another direction, as though the label is sufficient identification of the background nature of the organization. We believe that, if the concept of “CoP” is to have value, its central enabling elements must be identified before the label is applied.

Second, all CoPs in the wide range of examples are treated as black boxes, as if a CoP is a CoP is a CoP without differences of processual intensity, mix, or enactment. While we want to defend the conceptual integrity of “CoP,” more careful theory-building may reveal significant differences in the ways knowing is enacted in different subtypes of CoP.

Third, the internal processes of enacting knowing are often taken as a given and not articulated in a systematic or enlightening manner.

We would argue, in response to this tendency, that a CoP stands in special need of internal analysis because of its emphasis, from the very beginning, on process: on knowing in practical, social application; on learning in interactive practice; and on community as a web of relating activity. This commitment has two implications. First, it means that identifying the communicative processes central to enacting CoP relations is crucial. Second, it means that such processes may occur more or less in any given group, and have more or less impact on other group processes. Thus, some groups might be purely and totally CoPs. In others, these central processes might take place, but in limited or surface ways that make the group less fully or constantly a CoP. In others still, an essential process might never take place so that, although a group shares knowledge, it could not be validly analyzed as a CoP. The case of the insurance claims processor offered by Wenger (1998), for instance, is one that, while deserving to be seen as a CoP, seems *prima facie* to be primarily a bureaucratic work organization. How do we tease out the features that make it a CoP and understand what makes it work as a CoP?

This article investigates the internal communicative processes of enacting knowing in CoPs in two distinct cases in order to articulate the communicative enactment of CoPs and to evaluate the outcomes of specifically CoP communication processes. By comparing the CoPs, we offer some understanding of the nature of knowing as it occurs through the sharing of repertoire, mutual engagement, and negotiation of joint enterprise.

Review of Literature

CoP theory is among the first resources for the growing army of knowledge management analysts who seek “a perspective that focuses on the knowledgeable ability of action, that is on knowing (a verb connoting action, doing, practice) rather than knowledge (a noun connoting things, elements, facts, processes, disposition)” (Orlikowski, 2002, p. 251). With its origin in learning theory and anthropology (Lave, 1991; Lave & Wenger, 1991), the CoP is a concept used to describe a group involved in a similar set of knowledge and learning processes. CoPs have been examined throughout several bodies of literature (see E. Davenport & Hall, 2002, for a comprehensive review). CoPs have been evaluated for their capacity to increase organizational capabilities (Leidtka, 1999), learning (Knight, 2002), organizational change (Hendry, 1996), and innovation (Dougherty, 2001) of work in a “synergistic collaboration” that works both within communities and between CoPs in organizations (Brown & Duguid, 1996). Just as Hutchins and Klausen (1996) recognize airplane pilots as a CoP even if individuals have not worked together, professions such as nurses (Bennar, 1994), educators (Grisham et al., 1999; Knight, 2002), insurance claims processors (Wenger, 1998), and engineers (Kunda, 1992), and interorganizational groups (Kavanagh & Kelly, 2002; Lathlean & LeMay, 2002) and virtual communities (Bieber et al., 2002), can be seen as communities that share a practice.

CoPs are enacted communicatively by participants. Indeed, the notion of communities of practice captures the complexities of how knowledge is created and shared by those who work and talk together regarding shared objects and in shared situations, and simultaneously it captures the difficulties of attempting to transfer that knowledge to others. (Zorn & Taylor, 2003, p. 110)

CoPs are constituted through communication processes that could include technological mediation (Vaast, 2004).

The most comprehensive analysis of the internal dimensions and processes of CoPs to date comes from Wenger (1998). Although Wenger and his associates (Wenger, McDermott, & Snyder, 2002; Wenger & Snyder, 2000) offer many overlapping conceptual schemes to characterize CoP processes and focus more on how to implement CoPs as a solution to knowledge issues in organizations, Wenger’s earlier analysis introduces three especially well-elaborated concepts—mutual engagement, shared repertoire, and negotiation of a joint enterprise—as mechanisms to determine the existence of CoPs and to explore further the communicative nature of CoPs.

Based on this prior work, we follow Iverson and McPhee (2002) in contending that mutual engagement, shared repertoire, and negotiation of a joint enterprise deserve primary attention as communication processes that are the main contributors to community creation and knowledge dynamics. We will argue that this triad of concepts allows researchers to determine the presence of a CoP, distinguish between different CoPs, illuminate the communicative process of knowing in practice, and evaluate communicative processes in CoPs.

The Three Elemental Processes of CoPs

We want to recenter CoP studies on what we believe is the core of CoP theory: its articulation of three elements of a CoP (mutual engagement, shared repertoire, and negotiation of a joint enterprise). Mutual engagement signals the level of communication and interaction. If participants are not interacting at all, a CoP is clearly not present. Mutual engagement has several other implications for a CoP: it accomplishes a sort of boundary-establishment, by connecting each CoP member to multiple knowledge sources, and it allows the repertoire and joint enterprise, as well as the concrete nature of the work context, to be learned and negotiated. The amount and nature of mutual engagement will aid characterization of the CoP. Shared repertoire includes the knowledge, capabilities, and shared (communicated) reifications within the group of people. Development or social exploration of such a repertoire is a primary knowledge process in CoPs; the repertoire also serves as a communicative vocabulary and a symbol of membership. A joint enterprise entails a common set of tasks which members can influence. Negotiation of that enterprise at various levels and in different manners is an especially important factor distinguishing subtypes of CoPs. In the process of negotiating the enterprise of the CoP, members are communicatively enacting the CoP. Negotiation also potentially increases member commitment, both by the power of participation and by creating tasks of interest to the members; it is also the key setting for mutual engagement and for generating community commitments that are the foci of knowledge and coordinated practice. Together, these three communicative processes form the basis for determining the extent to which and the form in which a CoP is present.

CoP theory strongly emphasizes the interactively constructed nature of engaging, sharing, and negotiating. The dynamic, processual focus on practice makes CoP theory a situated framework for analyzing the dimensions of knowledge and knowledge relationships through the communicative acts of the three elements. Thus, CoP theory offers a schema for analyzing knowledge as a process.

A central argument of this article is that the CoP elements of mutual engagement, shared repertoire, and negotiation of a joint enterprise communicatively enact a CoP. Even low levels or limited aspects of each element indicate a certain level or measure of CoP dynamics, even if only as a marginal case. For the purposes of this analysis, we remain open to different types and forms of CoPs in order to foster an understanding of knowing in action through CoP theory. Specifically, the theoretical constructs of

CoP theory can be utilized as a tool for analyzing interconnections, or the lack thereof, of knowing.

In the spirit of CoP theory, we believe that these central elemental processes need to be proven in practice, in a study that shows how they work to identify vital facets of CoPs and that shows the credibility (in a sense, the construct validity) of using them to describe gradations of CoP. Accordingly, we pursue answers to the following research questions:

- RQ1: Does CoP theory identify important processes of communicative enactment of CoPs?
- RQ2: Does CoP theory articulate important differences among CoPs?
- RQ3: Does CoP theory provide a basis for evaluating the impacts of different communicative enactments of knowledge in CoPs?

Case Selection

We chose two case studies to provide a rich, in-depth examination of CoPs while still retaining the chance for comparison. Specifically, we examine two groups of volunteers in separate organizations; prior knowledge of the groups led us to expect that they were CoPs, but we made no assumptions and, instead, relied on research to reveal the presence or absence of CoP processes within them. This conscious focus on volunteers allows us to highlight the organizational process absent profit motives, and to demonstrate that communicatively enacting knowing is an *organizational* process, not just a business process. Past studies of CoPs have typically examined paid employees of corporations. However, the profit motive creates economic conscription to the organization and the CoP (Etzioni, 1984). Because voluntary action is needed for the success of CoPs, analyzing paid employees who are economically set in the organization is not necessarily the best choice for an initial study exploring the communicative enactment of CoPs. Volunteers, contrariwise, can “vote with their feet” (Harris, 1998, p. 154), making them rather difficult to manage, just as CoPs cannot be managed but must be nurtured and “cultivated” (Wenger et al., 2002). Volunteers do not fit the normal model of work and management (Ashcraft & Kedrowicz, 2002; Cnaan & Cascio, 1999). As a result, elements such as negotiation of a joint enterprise and mutual engagement are less likely to be under managerial control. The people in this study are voluntarily participating in the CoPs and, thus, might give a clearer sense of the motivating power and results of CoP membership.

Methods

We analyze two groups of volunteers in separate organizations. Primarily, we examine the Disaster Aid (pseudonyms are used for all organizations and people) volunteers comprising the response teams (RTs) that provide assistance in the case of local disasters. As a comparison group, we analyze the Docents of Sonoran Garden, a botanical garden, in order to develop a multifaceted analysis (Janesick, 2000). Both

organizations are located in a large southwestern metropolitan area. Participation, observation, and interviews were used to examine hermeneutically the contextual dimensions of CoPs in two organizations (Ackerman & Halverson, 2000; Orlikowski, 2002). In other words, each instance of data was interpreted in the light of developing overall understanding of the CoPs and, in turn, could lead to revised or deeper understanding, as the hermeneutic circle implies (Giddens, 1976). As we have noted elsewhere, this method parallels the duality of structure (McPhee & Iverson, 2002).

Data from both organizations were collected mainly by the first author, with some help from research assistants. The first author acquired the training to become a volunteer at Disaster Aid in order to keep an insider's perspective, "observing flows from the perspective of participating" (Lindlof & Taylor, 2002, p. 147) by taking training, responding to disaster calls, attending meetings, and conducting conversational interviews. This researcher had had training and volunteer experience at Disaster Aid several years previously, and used this experience as a basis for understanding RT practices. None of the volunteers from his earlier participation were active, so he approached the current RT as a social newcomer. The fieldwork data set comprised 19 disaster calls, three meetings, and numerous conversations with the RT members. Participation included 81 hours of on-call responses, 6 hours of meetings, and 16 hours of classroom training.

Semi-structured interviews were conducted (see Appendix A for questions). Interviewees included 15 members of the east region and five members of the north region for comparison because the volunteers and staff described the north region as stable and successful.

At the Sonoran Garden, the first author explored the issue of training by speaking with the Docents and the staff about the courses; he also collected copies of the training materials. Then, two day teams were examined for a period of three weeks, including observation of tours and other activities, conversations with Docents, and observation of socializing times. Additionally, five semi-structured interviews with Docents and staff were included to check observations and for comparison to the interviews conducted at Disaster Aid. The interviews had an extremely high level of consistency with the conversational interviews and field notes; therefore, the number of interviews was limited. The observation time totaled 30 hours—15 hours per day team.

Because the elements of a CoP were generated by Wenger (1998), articulated by Iverson and MCPhee (2002), and adopted in other work (Vaast, 2004), starting from a *tabula rasa* position would be unreasonable. Instead, we adopted the template approach (King, 1998) by examining the three criteria while also remaining open to new constructs, contradictions, and negative cases. The text was coded using the NVivo computer software, with text of fieldnotes, transcripts, and documents labeled as supporting each element, and each element and other concepts questioned as they emerged. Additional categories were added as needed in an effort to avoid imposition of the template on the data. The additional categories, such as "call descriptions" and "volunteer complaints," were analyzed to see if they contradicted or altered the

template. None of the additional categories were determined to be central to the CoP elements and were not included in the analysis. From each of these sets of data, descriptions of the cases were developed for comparison and discussion.

Cases

Disaster Aid RTs

Disaster Aid RTs provide for unmet disaster-caused food, clothing, shelter, and health needs. Locally, the RTs responded to 349 disasters and provided assistance to 609 families in 2002. The east region RTs operated from a satellite building approximately 20 miles from headquarters. The region had no members with more than two years of experience and had high turnover. Because its volunteers and staff described the north region as stable and successful, members of the north region RTs were also interviewed for comparison.

In the first author's 14 weeks in the field, the RTs only responded to domestic fires. An RT gathers information about the clients, disaster, and extent of damage. The RT provides services for clients until the next business day when they can go to the organizational office to establish a plan for meeting their overall needs. For the RT, most of the time is spent waiting for a disaster call. The team lead (a volunteer) issues a page after being notified of a disaster. The RT members respond to the page, meet, and arrive at the disaster scene within one hour of the page. If the disaster is "hot" (in progress), the scene can be exciting, as was noted about a 4:00 a.m. fire:

As I was giving directions from a map, I looked up and saw a glow in the air ahead. I quit reading the map because we knew we were getting close. We pull past the sheriff's deputies or police who look at us suspiciously at first, but then see the Disaster Aid emblem on the side of the truck and they wave. We arrive and the trucks are still working and the roof of one of the two houses is still ablaze. We make certain to stay clear of the firefighters that look busy. One of the fire chiefs approaches and starts to explain that we won't be able to enter for a while. We laughed at the obvious comment. The people from the two houses were in separate areas. A mom with her daughter and a friend staying over are in a car. The daughter is asleep. The other house has a woman and two visitors from another state. The owner appears relatively calm, but the company is quite distraught. One needs glasses and they all need meds. The firefighters pull out some boxes and they [the clients] try to sort through some photos as I ask them questions to get the paperwork started. (Fieldnotes, Disaster Aid)

The RT divides up the duties of interviewing the clients to fill out the main form, going through the burned structure (if possible) to assess damage, arranging housing, money to purchase designated items such as food and clothing, and giving other assistance. Before leaving the scene, the team members debrief by discussing questions and assessing performance. Although the forms and procedure remain consistent, each disaster is different and requires knowledgeable action by the volunteer.

Sonoran Garden Docents

The Sonoran Garden is a 50-acre desert garden started by volunteers in 1939 and developed into a facility for education, exhibition, research, and conservation. The garden recently expanded its buildings to include a large building for the volunteers. The Docents provide an interactive experience for the guests of the garden by giving tours, answering questions, and providing experiential learning opportunities. The Docents volunteer on a given day as part of a day team. The Docents arrive before 9:00 a.m., sign up for their daily activities, work in the garden, and finish each day by having lunch together. Most Docents know little about the desert at first, but the Docents are required to take over 100 hours of classroom training and to engage in mentoring known as the nurse plant program. As a Docent explained, nurse plants

provide support [shade] and help to the baby plant to get going. Well we do the same thing. We have each new Docent assigned to a nurse, someone who will be their nurse plant and take them around and help them make sure that they have an opportunity before they do it on their own to do each station, to shadow a tour as part of their orienting themselves to the group once or twice before they're asked to do a tour on their own. (Irene, personal interview, Sonoran Garden)

In addition to interacting with guests, the Docents spend significant time talking to each other in the morning and during their daily lunch. They discuss new plants in bloom, animals, events of the day, and personal life events.

Results

Based on fieldnotes and interviews, the organization, training, activities, and stories of the RTs and Docents were analyzed utilizing the categories of CoP theory (see Table 1). Although these groups, at face value, appear to be CoPs with mutual engagement, shared repertoire, and potential to negotiate their joint enterprise, the most interesting results are the rich differences in how they communicatively enact the elements of a CoP and how those enactments allow for the accomplishment of

Table 1 CoP Elements

CoP element	Disaster Aid RT	Sonoran Garden Docents
Shared repertoire	Terminology Skills Activities Stories	Terminology Skills Activities Stories
Mutual engagement	At disaster calls Monthly meetings	Weekly scheduled Weekly, monthly, and annual meetings Training
Negotiation of joint enterprise	Flexibility within a limited system North region changes rules	Daily activity selection Docent independence Advice and feedback Welcomed

mutually appreciated organizational goals. In order to illustrate these differences, a small sampling of examples is included throughout this section to provide a glimpse into the richness of the volunteers' experiences as knowledgeable organizational members. The examples selected typically represent the comments of multiple participants, but were included due to their clarity of expression and brevity so that more of their voice could be included.

Mutual Engagement

The nature of the enterprise (as it is continually negotiated) provides an initial context for the CoP. Within that context, the members engage with one another in activity. The members of a CoP "sustain dense relations of mutual engagement organized around what they are there to do" (Wenger, 1998, p. 74). As members mutually engage in the practices that constitute their enterprise, they shape the nature of the CoP itself by including themselves and others inside the web of those dense relations, constructing their joint enterprise, and developing shared knowledge.

Disaster Aid. At Disaster Aid, the mutual engagement is sporadic, but still described as a team that works together. The RT members do interact, but mainly on calls and at meetings. Only three of the 15 interviewed indicated that they socialized with another team member outside of RT activities. One of them has a daughter who also takes calls. The other two have made friends with a person on the team. The primary source of engagement is the disaster call. The infrequency of calls means that some team members may not meet for months at a time, if ever. Although all members do not know each other, volunteers indicate that "friendships develop and a respect for each other develops as you see which team members are committed" (Rhonda, personal interview, Disaster Aid). The infrequency of opportunities for engagement means that engagement times are not social, but focus on the shared practice. Calls are important in building a sense of community and keep communicative interaction centered on the joint enterprise.

When on a call, the volunteers do not act together on a consistent basis. Unless a new person is being trained, the volunteers are each assigned tasks to complete as individuals, but the overall task still requires coordinated engagement. The person gathering general information on the clients and the people doing damage assessment need information from each other to complete their respective forms, so the two must talk and exchange information. Laura explained the task distribution as follows:

And I think that's why it's called the RT because you know you each have your assigned tasks; it isn't like a basketball team where you're working together through the whole game. You know it's a different kind of team action where you each have your assigned tasks and accomplish those; you meet a little bit to compare notes.
(personal interview, Disaster Aid)

Volunteers communicate with one another to accomplish their tasks. Other volunteers agree about teamwork and the importance of communicatively engaging. As Victor stated, RT members "get together afterwards to interact or to share what they may have seen or done and how it interacts with the other two people did in that

team” (personal interview, Disaster Aid). For example, a person interviewing the client communicated that important medicine was in the house. The damage assessment person found that it was damaged in the fire, so she told the team lead who called a nurse on duty to start the process of getting new medication. In this way, interaction allows communication about the scene for the RT members, who gain an understanding of the situation by learning about parts that they themselves cannot see. This mutual engagement allows activity coordination and overall understanding of the larger task at hand. Thus, the team members mutually engage around a shared practice.

The new members learn through direct engagement and by watching (even on an intermittent basis), thus gaining insight into techniques, mannerisms, and other nuanced elements of practicing as a disaster volunteer. A volunteer explains:

I learn from observing other, or from observing a couple of team leads that it’s, or how to be low profile in dealing with the victims and yet, how do I wanna say this, not come on too strong with the sympathy and the hugs and that sort of thing that some people aren’t comfortable with that from strangers. (Laura, personal interview, Disaster Aid)

Overall, the mutual engagement is sparse, but it exists and is counted as important by the volunteers. Mutual engagement does seem to make its theoretically essential contribution by providing the relational context for other processes and by recognizing and including members within the bounds of the community.

Sonoran Garden. In contrast, the level of engagement at Sonoran Garden is fairly high despite the individualistic nature of the activities, such as giving a tour or working at a discovery station. The Docents begin interacting during training and continue with many daily activities, meetings, and limited social events. The trainees are divided into groups of eight with one experienced volunteer at each table to serve as a guide and resource. As one Docent explained, the training was difficult, and going through it together helped in the bonding process. Wade stated, “[Y]ou have that shared experience of you know going through something difficult together, and that’s a bonding experience in itself, you know (personal interview, Sonoran Garden). After the classroom, the training continues through the nurse plant program. Nurse plants and new Docents work together, with the opportunity for questions and answers.

Within the daily activities of the Docents, the three basic categories of activity are the morning, working in the garden, and lunch. The morning and lunch involve extensive interaction. Before working in the garden, conversations about weekend travels, gardening, and other activities fill the large room where the Docents gather. In addition to catching up, the main engagement related to the garden involves negotiating who will do what activities for the day. These discussions with the day captain and other Docents are not overly extensive or time consuming. After signing up for activities, the Docents each go to their assigned tasks. Most of this work is done individually. The only interaction is with the day captain who walks around,

and there is also the chance of meeting of tour groups. Otherwise, tours and stations are done individually.

The final part of the day is lunch. Although most of the Docents are finished for the day by now (only a few stay to do an afternoon tour), most stay for lunch. Lunch is an important socializing and meeting time for the Docents. As the interpreter (Docent) coordinator states, "I think the morning and the lunch time is more, more socializing" (personal interview, Sonoran Garden). The level of engagement is high as the group either all sits together around the center tables of the interpreters' room or outside on a patio. It is very open and informal, but lunch typically goes beyond socializing, with discussion of events in the garden or related topics that communicate and create knowledge for their practice, such as a conversation documented in the fieldnotes about a beetle someone discovered at home. "Eventually after speculation, tossing out names and discounting some of them, one of the people got a book off the shelf and they read about them. The picture was not correct, but the description seemed correct" (fieldnotes, Sonoran Garden). Such discussions are important to build a sense of community and to add knowledge communally. Significantly, shared lunch has no necessary coordinating function; volunteers stay for it just to enact their mutual engagement to the knowledge and the enterprise.

Only two formal meetings for the Docents were described at Sonoran Garden. The first meeting is the day team meeting which occurs during lunch on the first day of the month. The Docents of that day's team and the interpreter coordinator attend this meeting. They discuss the events of the garden, and the interpreter coordinator asks for input regarding training topics and event ideas for the garden. The other meeting is the Interpreters Luncheon, is held on a Monday each month for all Docents. This meeting usually involves a guest speaker or other activities that keep all Docents informed. Approximately 100 people attended and heard about presenting educational information about moths to children. In this case, the mutual engagement communicated knowledge specifically relevant to the practices of Docents.

Comparison. While the RTs' mutual engagement is adequate to sustain the processes of a CoP, the difference in the amount and regularity of mutual engagement between the RTs and the Docents provides a clear point of distinction between these collectivities. The Docents regularly and continually engage with one another and, thus, have consistent opportunities for developing the CoP. The chances for the RTs to act as a community are minimized due to less engagement time, although the engagement is highly focused on their practice. The level of interaction influences the nature of the CoP. Think of the developments that can occur among the Docents: they can coengage in inquiry about the identity of an insect, trade accounts of new things observed, share visitor questions asked or novelties they have learned, discuss recent lectures by guest experts, ask each other questions, and learn about the talents of their colleagues while discussing the allocation of tasks. These developments occur rarely for the RTs. RT members do share ideas and learn from each other, especially when training new members, but mutual engagement only occurs when responding

to a disaster and then only with the team members available. However, the RTs indicate that they work together as a team and engage communicatively to understand the call and accomplish their goals.

Awareness of the importance of high engagement is reflected in the responses of the Docents and RT volunteers, who emphasized the importance of interacting as a team. Also, east region RT volunteers actively discussed adding more social events such as bowling or a barbeque. Several RT members disagreed with simply adding social events since they did not volunteer to spend social time, but agreed with the need to do more to interact as a team. "I have a social life. I am here to volunteer" (volunteer quoted in fieldnotes). In this case, more mutual engagement tied to the practice of the RTs would not only meet the individual goals of the volunteers, but also advance organizational goals. Activities such as preparing paperwork, assembling supplies, and general preparation work could be done as a team instead of individually. The Docents case demonstrates that mutual engagement can be altered through the policies and practices of the CoP and the organization. The Docents conceivably could choose to be less interactive by signing up for activities ahead of time, only having lunch when a meeting is needed, and interacting less for continuing education by distributing articles to the group instead of meeting together. The level and nature of mutual engagement are not inherent in a practice, but varying them is a flexible option for increasing or decreasing the level of interaction for the CoP, with likely growth in the quality of knowledge shared.

Shared Repertoire

Members of a CoP mutually engage with one another in the development of a common enterprise. In this process, CoPs develop shared repertoires that involve the commonly held capabilities and practices of the community. These capabilities are not static; as Wenger (1998) indicates, "Because the repertoire of a community is a resource for the negotiation of meaning, it is shared in a dynamic and interactive sense" (p. 84). The two organizations considered in this research each have clear sets of terminology and skills, and a variety of activities. These shared repertoires serve as foci and resources for social interaction, knowledge sharing, and further knowledge growth.

The activities for RTs include filling out paperwork, assessing damage, determining client needs, and providing services. As one team lead indicated, "We have a lot of paperwork that has to be filled out, and it has to be filled out correctly, and it has to be filled out with enough information to make it useful." The Docents' activities center around repertoire development through learning new stories or information and interpreting. Interpreting includes giving tours, teaching at learning stations, answering questions, and engaging guests in conversation. The Docents learned this in the same interactive process that they share with the guests, as Teri states, "But, anyway you know . . . [the instructor] sort of said well if we're letting our visitors have this experience, why not train the Docents by letting them have these experiences and then sharing them" (personal interview, Sonoran Garden).

When we look at the repertoires of the two communities, we note some similarities and some differences. The first similarity is a reliance on shared technical vocabulary. Technical terms are useful because they ease the tasks of informing and deciding about varied phenomena, actions, and parts of the organization. “Certainly once you know what the acronym means, then it makes sense what they’re questioning you or how they’re responding, but initially no, it’s kind of a lot of gobbly goop” (Victor, personal interview, Disaster Aid). Wendy concurs, “You know like sometimes we’ll say they’ll use a lot of letters, abbreviations of people that do certain things that, you know” (personal interview, Disaster Aid). Terminology provides a way to communicate specialized knowledge of the group. Both groups require training in classrooms and on the job. However, the Docents also have an extra vocabulary of botanical and ethnobotanical terminology. The terminology associated with scientific knowledge of the desert and plants is part of the product that is shared by the Docents with the visitors to the garden and is part of the reward the Docents gain from their volunteering at the garden. In this case, the terminology is a sign of the knowledge gained from the process of volunteering.

The skills of the groups are similar in some ways. The primary desired skillset for both sets of volunteers is to be outgoing, people-oriented, and effective communicators. This similar focus for two different groups of volunteers makes sense given the need for the volunteers to execute their tasks well and communicate to the public as a representative of the larger organization. Learning the repertoire is not only a symbol of becoming a member of the group, but is also the process of becoming one of the practitioners in the group. In a way, to be knowledgeable of the desert after training is similar to being able to fill out the paperwork correctly.

Importantly, sharing the repertoire occurs during engagement in practice. The Docents develop their repertoire in training, shadowing, and interacting throughout their time as Docents. The RT volunteers indicate that much of the learning is done on call:

Most of the learning is on the scene, and so yes, you are learning; the classes that you go to, teach you an ideal situation. But it’s really on the scene where you learn to think on your feet because a lot of it’s observation. You maybe you go to a scene and you realize later oh I didn’t even see that, I didn’t even realize that was happening. And so you improve your observation skills; you improve your multi-tasking skills. (personal interview, Disaster Aid)

The Docents learn through training, but also from each other. The interpreter director indicated, “Some of them go to this training, and others will go that training, and they’ll share those experiences with each other” (personal interview, Sonoran Garden). Learning together establishes the repertoires as a nonstatic, communicatively enacted process in the presence of the community.

The repertoires add to the sense of community through the sharing of specialized knowledge, and this shared repertoire is critical in socializing new members into the CoP. Consider the following fieldnotes from observing a new member learning to do damage assessment:

Looking at how burned out this is, we have to do the damage assessment from the outside and look in through the holes. . . . The trailer is really a RV that has metal wheels but no tires. It is small, but has been converted to have what looks like three beds. One was in back, one where the table was and the other in the driver's area. It has been converted here into a frame, but it is hard to tell, since it is so badly burned. The new person has trouble determining which kind of beds and how many. Clearly, being new impacts the ability to read the remains. (fieldnotes, Disaster Aid)

There are also a number of repertoire-relevant differences between the two organizations, starting with the different task domains for the groups. The standard activities that constitute the shared repertoires of the organizations demonstrate some of the strongest differences between the two groups. The Docents have repertoire development and interpreting as their two primary activities. The RT volunteers have the primary activities of client interviewing, assessing damage, determining needs, and filling out paperwork. The sets of activities in each organization reflect the difference in the nature of the tasks for each group. Despite similarity in the general function of repertoires of knowledge, differences between sets of activities demonstrate some of the differences between the two groups as CoPs.

Another important difference between the two CoPs lies in the structure and extent of repertoire development activities for the Docents. The Docents are engaged in continual learning through their weekly and monthly meetings, whereas the RT volunteers engage in initial classroom and on-the-job training, but, after that time, there is limited training. Thus, the shared repertoire of the RTs is much more static than the Docents' shared repertoire. However, the RT leaders indicate that they like to keep the repertoire shared in the sense that each person should know how to perform all of the tasks. As Frank explains:

Well no I think they all work pretty much together even though each one is in an assigned slot. Or a team leader assigns the slot. Like when we go out as a team, I try and assign people to different tasks than the last time I was out with them; I try and remember. (personal interview, Disaster Aid)

The knowledge is less motivating for the RTs than for the Docents; "It is like volunteering at a community college" (a Docent, fieldnotes). Second, unlike the Docents who share their knowledge with the visitors of the garden, Disaster Aid volunteers' knowledge is not used to interact with the client directly. Instead, the knowledge is employed for the organization, to determine both the short-term and long-term needs of the clients so that the organization can better respond. One notable exception to this is the damage assessment. The clients are typically told what is and is not salvageable. Otherwise, the repertoire furthers organizational processing but is not seen as a direct benefit to the client.

Overall, the shared repertoires of the two organizations have some similarities and also very notable differences. Both have a clearly shared repertoire, and thus both meet this requirement for a CoP. More importantly, the repertoire is enacted and maintained through the practice of volunteering. The repertoire development begins with specialized training, continues in practice, and adds to the sense of community

through sharing in specialized knowledge via communicative interaction. Learning the repertoire is not only a symbol of becoming a member of the group, but is also the process of becoming one of the practitioners in the group. The primary difference lies in the higher level of continued learning for the Docents. As a result, the Docents have an ever-increasing repertoire from which to draw for their activities in the garden. However, even though the RTs do not have a strong need for extra knowledge, they are continually regenerating, reintegrating, and reconfiguring their practices in an ongoing process of responding to different disasters. Both communities operate in and through a context of shared technical knowledge, but the fact that the RTs' knowledge is more tied to fixed organizational routines makes it more like a corporate knowledge group (e.g., Wenger's insurance claims processors) and less communal.

Negotiation of a Joint Enterprise

Negotiation of a joint enterprise encapsulates the process of working on a common set or type of tasks. Wenger (1998) maintains that the joint enterprise

is defined by the participants in the very process of pursuing it. It is their negotiated response to their situation and thus belongs to them in a profound sense, in spite of all the forces and influences that are beyond their control. (p. 77)

Negotiation of a joint enterprise constitutes a collective response to external forces, such as staff or situational characteristics, that defines the nature and enactment of the enterprise. In addition, we must remember the orientation of a CoP toward knowledge, learning, and mastery of the practice: negotiation constitutes mastery and makes members knowers, and thus creators, of the enterprise.

Disaster Aid. The RTs' negotiation of the nature of their enterprise is constrained by their mission and rules, which provide clear tasks, detailed forms to fill out, a simple list of items to replace, and a rigid price list to determine how much should be given in each instance. However, with experience, RTs do develop more capacity to negotiate services for clients, such as providing food even when a fire did not destroy much, if any, food: "When the people have nothing and the fire has burned everything up and we needed to maybe give some clothes that we didn't really need to give" (Sue, personal interview, Disaster Aid). For several fires, the rules were not strictly enforced, and a judgment had to be made for what to provide. The lack of direct supervision also requires RT volunteers to negotiate the enterprise by

Still keeping within the requirements of . . . [Disaster Aid], but still being flexible enough to realize that . . . [Disaster Aid] cannot write down every single circumstance and every example of what could happen, so they rely on you to pretty much use your judgment and use your skills and use your training to get a situation resolved. (Victor, personal interview, Disaster Aid)

This negotiation of the joint enterprise was characterized as "doing the right thing" in circumstances where the rules were either unclear or simply deemed inappropriate for the circumstances; it "shifts" the enterprise from simple rule-following to more

frequent and sensitive need-response. This kind of negotiation (which appears in examples cited above) deserves special attention because it involves the central focus of RT knowledge, the shared repertoire, and how it is applied. Being a member able to engage in negotiation requires that a volunteer knows both the rules and what they normally mean, and the larger humane enterprise of RT and how much interpretive latitude members can assert to one another.

Another level of negotiation of the joint enterprise is through innovation and adoption. As individuals create innovations, these innovations are discussed and shared. One woman had a laminated “cheat sheet” for each type of paperwork which several people copied. Others bought their own technology such as unique clipboards, boots for walking in wet and burned houses, and snakelights for hands-free lighting. When a particular item was successful in the field, others purchased similar items. In these examples, the knowing practices of a RT member were the basis for acting to change the practices of the group.

At a group level, in relation to the organization, the east region and north region RTs approach negotiation of a joint enterprise differently. The north region RT has a separate set of rules for its enterprise after taking the initiative to renegotiate the procedures, such as members carrying their own pagers instead of turning in and checking out pagers each week, meeting on the scene instead of meeting before and then arriving on the scene together, and creating a new system of co-team leads. Each of these alterations in policy was described as “rebellious” rule breaking. The north region RTs made the changes and then discussed them with the staff. The general policies of the organization did not fit the circumstances of their work. By altering practices contrary to policy, the north region volunteers demonstrate that they have taken a greater level of active interest in the practice. Through joint negotiation of their circumstances, the north region members take the practice seriously and develop ownership, as Wenger (1998) indicates: “As a form of participation, rebellion often reveals a greater commitment than does passive conformity” (p. 77).

The east region volunteers usually accepted edicts from staff without much question. They discussed what the policy was but did not consider at a general level if it worked well for them. More importantly, a collective will to alter the system was not observed. Instead, the choice exercised by many volunteers (myself included earlier in my volunteering) is to leave and, thus, choose exiting over the effort to alter the system. Turnover was consistently discussed as a problem by several east region RT members and team leads at RT meetings (fieldnotes). (This illustrates the importance of negotiation of a joint enterprise in explaining the maintenance of a committed community. Another way in which to think of this situation is that lack of routines to communicate knowledge of problems effectively is what leads to member exit.) For Disaster Aid as an organization, the interesting result of the north region push for more control is that the north region volunteers are held up as a shining example by both the Disaster Aid staff and the east region volunteers.

Sonoran Garden. The Docents negotiate in a very different manner. Here, the categories of negotiating a joint enterprise are ability to act independently, negotiate

with the other Docents, and negotiate with the organization overall. The ability to have autonomy over one's own actions and engagement in practice is an important component in the ability to negotiate a joint enterprise. If Docents had to follow a prescribed tour or script for the act of interpreting the garden, they would possess little ability to negotiate—but this is not the case at Sonoran Garden. When asked what was done differently than “by the book,” the consistent answer was that there was no book. Even many Docents do not follow the same tour each time. This lack of a prescribed manner for giving a tour is part of a larger desire to maintain flexibility for the volunteers to act independently. The interpreter coordinator stated that the staff want the tours to be flexible:

We always encourage flexibility because you never know what's exactly going to happen out on that trail and so. . . . You know, if you have a small group of people and not very many people on the trail, you can do things kind of the way you expect to do them if you're giving a tour for example or a station but, if things are not going in that usual way, you know, you're going to have to adapt. . . . One of the hallmarks I think of Docents is flexibility. (personal interview, Sonoran Garden)

All of the Docents indicated that they had the freedom to do a tour as they pleased. The main constraint placed by the staff is that they encourage each tour to have a theme and focus the tour on that theme, instead of just providing facts. Instead of tours, some Docents focus on the discovery stations (which can also be set up in flexible ways) or on ‘floating’ with a bird's nest or another object to spark questions from guests. The level of independence is fairly high for the Docents. This independence is mostly constrained by what others want to do that day. The Docents do negotiate among themselves by engaging in a communicative, negotiated process of selecting which activities to do; they sign up on a brown sheet known as the daily schedule that lists the activities to be covered by the Docents. Fifteen minutes before activities begin,

Docents are discussing who is going to do what for the day. Only one name is signed at the time. A person signed up for the 10:30 tour. I found out later that they did this last week. The other duties are not taken yet. I am told and I observed that the volunteers negotiate the process of who is going to do what for the day. One volunteer stated that, you have to think about who likes to do what. You know some people like to do things more than others, so you want to give them a chance to sign up for those first. By 9:00, most activities are signed in, and the Docents leave. (fieldnotes, Sonoran Garden)

Rather than sign in early, have pre-assigned tasks, or use a first come first served system, the Docents consider who is present and openly communicate about their activity choices.

At a group level, the Docents' capacity to negotiate their enterprise of interpreting at the garden is enhanced by the lack of a perceived barrier between staff and volunteers, the capacity to provide feedback and advice, and the representation of volunteers in formal decision-making (and through the capacity to leave). As one docent explained:

We work real closely with . . . [the interpreter coordinator] who is our direct supervisor and if any one, at any time, if we have any ideas or if something that she has suggested we do doesn't work out, all we have to do is tell her, hey . . . this isn't working or . . . why don't we do, try it this, and she's very cooperative with us in that respect. (Jan, personal interview, Sonoran Garden)

In addition to giving feedback on the daily activities, the interpreter coordinator also seeks the advice of the Docents for continuing education. The Docents know what is happening in the garden, so they know what areas of knowledge they would like to expand. This gives the Docents a direct influence over determining what they will learn more about and discover as they continue to learn.

Comparison. Although the Docents and RTs face different circumstances, both have some capacity to engage and, thus, alter the nature of their respective enterprises. The Docents work in a setting which allows for negotiation on an individual level, within the team, and with the organization overall. At a group level in relation to the organization, the north and east region RTs approach negotiation of a joint enterprise differently. The north region RTs have jointly negotiated a separate set of rules for their group. The east region RTs do little negotiation with the staff, but engage in negotiation in a more local and implicit way by collectively negotiating how to interpret the rules in specific disaster situations where they are free from staff oversight. The RTs are not pursuing their own selfish interests or acting randomly, but are negotiating the RT mission and its bounds by communicatively and jointly negotiating the mission "in the very process of pursuing it" (Wenger, 1998, p. 77). However, again, the Disaster Aid volunteers negotiate at a marginal level compared with the capacity of the Sonoran Garden volunteers to negotiate ways to stimulate better and more knowledgeable performance.

Discussion

This research draws upon current CoP research to offer CoP theory as a means to analyze more thoroughly the praxical, situated, and ultimately communicative nature of knowing through an examination of volunteers in two different CoPs. CoP theory, with its three central elements of engagement, repertoire, and negotiation, has served as a template for describing vital currents of communication among volunteers in these two organizations. Our goal was to demonstrate that Wenger's (1998) triad of concepts not only allows researchers to identify important processes of communicative enactment of CoPs and articulate important differences between CoPs, but also provides a basis for evaluating the pragmatic effect of different communicative enactments of knowledge in CoPs.

We find solid evidence that the dimensions of the CoP model identify important communicative enactment processes. These processes build knowledge, build member skill in knowledge use, and build "know-who" among members. They also build commitment to the service goals of the organization, and enact a vital linkage between the practice of service provision and the practices of knowledge

development and sharing among volunteers. Moreover, they explain how the Docents and volunteers at Disaster Aid are far from identical knowledge producers.

Our analyses indicate that the RTs of Disaster Aid are a CoP based in mutual engagement when a disaster occurs with a strong shared repertoire but limited negotiation of a joint enterprise. As a CoP, their practice is highly defined by the organization, but they demonstrate that CoP processes do apply and share knowledge within collective practice within those conditions. Knowledge is shared through mutual engagement so that the repertoire can be used cooperatively and the enterprise can be carried out systematically; engaged cooperation builds member skill in knowledge use and builds “know-who” among members. Discussion of the repertoire and modeling of its application are sufficient to teach newcomers and adapt (to some extent) to client needs; the repertoire and knowledge of it serve both instrumental and symbolic functions. Adaptation to a limited degree is also accomplished in negotiation, although cultural limitations prevent it from creating the kinds of community recommitments many members desire.

In contrast, the Docents of Sonoran Garden have more regular mutual engagement, a strong shared repertoire, and daily negotiation of a joint enterprise: elements that make the same contributions noted above for the RTs but to a greater degree. The Docents have no desire for negotiation of change in the gross nature of the enterprise. Because the Docents are given flexibility within the organization to conduct their practice, they can negotiate the daily execution of tasks (and how knowledge is applied within their activities) in order to meet ongoing volunteer and organizational needs. Their engaged activities structured by these negotiations also build commitment to the service goals of the organization, and enact a vital linkage between the practice of service provision and the practices of knowledge development and sharing among volunteers. In contrast, the lack of ongoing negotiation of practice among RTs in Disaster Aid sometimes “handcuffs” these volunteers in terms of meeting client needs. Thus, these two cases demonstrate that knowing can be enacted in different ways and that these differing enactment profiles can be evaluated as more or less effective in linking knowledge processes to service practices.

Advantages of CoP Theory

Of the three research questions, the first two have been answered with a strong “Yes” up to this point. CoP theory does identify important processes of communicative enactment of CoPs (RQ1). Mutual engagement, shared repertoire, and negotiation of a joint enterprise provide a framework for understanding the communicative processes of enacting CoPs. Additionally, CoP theory does articulate important differences between CoPs (RQ2). While both the RTs and the Docents are CoPs, they are enacted in significantly different ways, and CoP theory provides a framework for articulating those differences. However, RQ3 asks, “Does CoP theory provide a basis for evaluating the impacts of different communicative enactments of knowledge in CoPs?” The utility of CoP theory when applied as an evaluation tool is clear on theoretical and practical levels.

Theoretical Implications

As we have used it, CoP theory departs from viewing CoPs as a particular type of group (Grover & Davenport, 2001) or from viewing all learning as a CoP process (Wenger, 1998). Instead, the elements of a CoP can be used to analyze knowing as communicatively constituted in practice. These concepts could be used to reframe extant research regarding the joint production of knowledge in organizational contexts. For example, the two CoPs analyzed by Heaton and Taylor (2002) could be framed using the specific dimensions articulated here. Such a framing could lead to important insights regarding the text–context dialectic they develop.

Second, the differences identified between the communities of practice developed by the RTs and by the Docents point to the need to examine the range of CoPs that can be negotiated. The RT members focus on performance of task with little innovation emphasized, but rather a concentration on execution similar to that in high reliability organizations as described by Weick and Sutcliffe (2001). The Docents are strongly focused on execution of tasks, but from an independent and highly engaged perspective. More work is needed to define the typologies of CoPs. If future CoP research uses the dimensions as we have articulated them, the array of case study research will become more comparable, and research will cumulate more easily.

Practical Applications

As the analysis indicates, the enactment of CoPs can differ greatly as regards mutual engagement, shared repertoire, and negotiation of a joint enterprise. These differences provide insight into ways in which practitioners could enhance engagement and facilitate the productive development of a shared repertoire and the effective negotiation of joint enterprises. Mutual engagement is important and can be increased, but should focus on practice. Simply providing time to interact socially does not advance the practice, although it may create familiarity. However, if unrelated social time is forced, it may be resented, as the RT members indicated when they articulated a need to interact more but not for more social time. Rather, mutual engagement can be expanded either by engaging in practice together as the Docents did through nurse plants, training, and shadowing, or by teaming up on tasks like the RTs did when training new members. Additionally, however, this analysis demonstrates that fairly independent practice, such as the Docents giving tours or the RT members doing separate tasks, does not prevent mutual engagement. Instead, the Docents' lunch serves as an example where CoP members could communicate their independent practice as a sensemaking (Weick, 1995) and retelling (Boje, 2001) activity.

Developing a shared repertoire emerges from mutual engagement. The communicative perspective developed here reminds us that knowledge of a repertoire is not a static entity, so simply having the same repertoire as other members is not sufficient to constitute a CoP. Rather, the sharing process and engagement in practice enacts the repertoire while also enacting the CoP. CoPs cannot simply have a list of actions like a

list on an intranet (Vaast, 2004), but need to have time and a place to share ideas and lived knowledge of practice.

Negotiation of a joint enterprise must also be considered in complex ways. Negotiation of a joint enterprise is not only policy-setting or involvement in governance, but also opportunity to negotiate the practice in which members can engage. The Docents have the freedom to alter their tours, but it is not just freedom. The process of negotiation gives them responsibility for the CoP and the opportunity to act on a group level in a heedful way (Weick & Roberts, 1993). Encouraging people not simply to race to sign up for their personal favorite task, but to consider others and act with the other members' interests as well as the organization's interests in mind, is a powerful negotiation of the enterprise.

Understanding the differences between the Docents and the RTs also points to the importance of a strong CoP. For the RTs, limited mutual engagement in practice and inability to negotiate the enterprise of being an RT contributes to frustration, isolation, and the turnover of RT volunteers. CoP theory also points to why turnover and the resulting lack of knowing is a significant problem. From one perspective, the volunteers are highly replaceable. It seems simple to train someone to go into the field, do the assessment, fill in the paperwork, and provide immediate assistance based on a clear formula. However, recent large-scale disasters, such as Hurricane Katrina, have pointed to why going simply "by the book" does not provide sufficient help. Similar (although significantly smaller) examples can be found in the RT. Volunteers note that disasters differ greatly and that many require experience and knowledge for adequate response.

Two examples demonstrate this. One of the first fire calls observed was an apartment fire started by an eight-year-old girl who had been left alone. The girl's mother had been arrested on an unrelated charge, so she was going to be spending the night (at least) in custody. The daughter was going to stay with neighbors. While this story is tragic on several levels, it also posed a quandary for the RT, given the formula for action that focuses on "disaster-caused needs." Damage was minimal; the clients had clothes. The mother had a place to stay (jail), and the daughter was with neighbors. The daughter could use food, but the mother could not use the vouchers to get the food. Luckily, the team had one of the more experienced team leads at the time, but it still took 45 minutes for the team to discuss and decide how to fill out the paperwork in case the family needed services once the mother was released.

The second example was a fire in which a mobile home was destroyed. The mobile home was due to be moved soon, and the owners of the mobile home park had a restraining order preventing the owners from entering the property due to owed rent and other problems. This led to complications such as the owners not being present for the damage assessment, questions regarding the owners' need for housing, questions regarding need for food, and the ability of the owners even to see the mobile home. Each of these questions demonstrates the need for a knowledgeable group drawing on collective resources. For the RTs, lack of experience due to high turnover as well as the lack of mutual engagement and negotiation of the joint enterprise means that these decisions and the discussions about what to do are not

based on extensive practice, and are placed in the hands of a less-experienced group. These are moments where the rules of bureaucracy are not useful. Rather, organizations need the CoP members to draw on their group resources of knowing as a community.

However, managers cannot simply create CoPs and mandate policy changes to increase the elements. Instead, organizations must cultivate CoPs (Wenger et al., 2002). However, it is not enough to provide employees or volunteers with resources and time together to get to know each other. The time together must be enacting practice by developing repertoire and negotiating their joint enterprise. The communicative processes of enacting a CoP must be nurtured, rewarded, and developed clearly.

For theorists as well as organizational practitioners, CoP theory offers a way to analyze knowing processes and to assess which elements of a given CoP are strong and which elements need further encouragement and cultivation to improve knowing throughout the CoP. As we have framed it, the theory makes valuable distinctions that highlight strong or problematic processes within groups that might valuably function as CoPs. We have shown that these key processes are observable, are often articulated by participants, and have clear implications for knowledge development and organizational practice.

References

- Ackerman, M. S., & Halverson, C. A. (2000). Reexamining organizational memory. *Communications of the ACM*, 43, 59–64.
- Ashcraft, K. L., & Kedrowicz, A. (2002). Self-direction or social support? Nonprofit empowerment and the tacit employment contract of organizational communication studies. *Communication Monographs*, 69, 88–110.
- Bennar, P. (1994). The role of articulation in understanding practice and experience as sources of knowledge in clinical nursing. In J. Tully (Ed.), *Philosophy in an age of pluralism: The philosophy of Charles Taylor in question* (pp. 136–155). Cambridge, UK: Cambridge University Press.
- Bieber, M., Engelbart, D., Furuta, R., Hiltz, S. R., Noll, J., Preece, J., et al. (2002). Toward virtual community knowledge evolution. *Journal of Management Information Systems*, 18, 11–35.
- Boje, D. (2001). *Narrative methods for organizational communication research*. Thousand Oaks, CA: Sage.
- Brown, J. S., & Duguid, P. (1996). Organizational learning and communities-of-practice: Toward a unified view of working, learning, and innovation. In M. D. Cohen & L. S. Sproull (Eds.), *Organizational learning* (pp. 58–82). Thousand Oaks, CA: Sage.
- Brown, J. S., & Duguid, P. (2000). *The social life of information*. Boston, MA: Harvard Business School Press.
- Cnaan, R., & Cascio, T. (1999). Performance and commitment: Issues in the management of volunteers. *Journal of Social Service Research*, 24, 1–37.
- Cook, S. D. N., & Brown, J. S. (1999). Bridging epistemologies: The generative dance between organizational knowledge and organizational knowing. *Organization Science*, 10, 381–400.
- Davenport, E., & Hall, H. (2002). Organizational knowledge and communities of practice. *Annual Review of Information Science and Technology*, 36, 171–227.
- Davenport, T. H., & Prusak, L. (2000). *Working knowledge: How organizations manage what they know*. Boston, MA: Harvard Business School Press.

- Dougherty, D. (2001). Reimagining the differentiation and integration of work for sustained product innovation. *Organization Science*, 12, 612–631.
- Etzioni, A. (1984). *Capital corruption: The new attack on American democracy*. San Diego, CA: Harcourt Brace Jovanovich.
- Giddens, A. (1976). *New rules of sociological method*. Berkeley: University of California Press.
- Grisham, D. H., Bergeron, B., Brink, B., Farnan, N., Lenski, S. D., & Meyerson, M. J. (1999). Connecting communities of practice through professional development school activities. *Journal of Teacher Education*, 50, 181–191.
- Grover, V., & Davenport, T. H. (2001). General perspectives on knowledge management: Fostering a research agenda. *Journal of Management Information Systems*, 18, 5–21.
- Harris, M. (1998). Doing it their way: Organizational challenges for voluntary associations. *Nonprofit and Voluntary Sector Quarterly*, 27, 144–158.
- Heaton, L., & Taylor, J. R. (2002). Knowledge management and professional work: A communication perspective on the knowledge-based organization. *Management Communication Quarterly*, 16, 210–236.
- Hendry, C. (1996). Understanding and creating whole organizational change through learning theory. *Human Relations*, 49, 621–641.
- Hutchins, E., & Klausen, T. (1996). Distributed cognition in an airline cockpit. In E. Engstrom & D. Middleton (Eds.), *Cognition and communication at work* (pp. 15–34). Cambridge, MA: Cambridge University Press.
- Iverson, J. O., & McPhee, R. D. (2002). Knowledge management in communities of practice: Being true to the communicative character of knowledge. *Management Communication Quarterly*, 16, 259–266.
- Janesick, V. J. (2000). The choreography of qualitative research design: Minuets, improvisations, and crystallization. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (2nd ed., pp. 379–399). Thousand Oaks, CA: Sage.
- Kavanagh, D., & Kelly, S. (2002). Sensemaking, safety, and situated communities in (con)temporary networks. *Journal of Business Research*, 55, 583–594.
- King, N. (1998). Template analysis. In G. Symon & C. Cassell (Eds.), *Qualitative methods and analysis in organizational research: A practical guide* (pp. 118–134). London: Sage.
- Knight, P. (2002). A systemic approach to professional development: Learning as practice. *Teaching and Teacher Education*, 18, 229–241.
- Kuhn, T. (2002). Negotiating boundaries between scholars and practitioners: Knowledge, networks, and communities of practice. *Management Communication Quarterly*, 16, 106–112.
- Kunda, G. (1992). *Engineering culture: Control and commitment in a high-tech corporation*. Philadelphia: Temple University Press.
- Lathlean, J., & LeMay, A. (2002). Communities of practice: An opportunity for interagency working. *Journal of Clinical Nursing*, 11, 394–398.
- Lave, J. (1991). Situated learning in communities of practice. In L. B. Resnick, J. M. Levine, & S. D. Tearsley (Eds.), *Perspectives on socially shared cognition* (pp. 63–82). Washington, DC: American Psychological Association.
- Lave, J., & Wenger, E. (1991). *Situate learning: Legitimate peripheral participation*. New York: Cambridge University Press.
- Leidtko, J. (1999). Linking competitive advantage with communities of practice. *Journal of Management Inquiry*, 8, 5–16.
- Lindlof, T. R., & Taylor, B. C. (2002). *Qualitative communication research methods* (2nd ed.). Thousand Oaks, CA: Sage.
- McPhee, R. D., & Iverson, J. O. (2002, November). *Discourse systems structure organizations and their discursive resources*. Paper presented at the National Communication Association Convention, New Orleans, LA.
- Orlikowski, W. J. (2002). Knowing in practice: Enacting a collective capability in distributed organizing. *Organization Science*, 13, 249–273.

- Vaast, E. (2004). O brother, where are thou?: From communities to networks of practice through intranet use. *Management Communication Quarterly*, 18, 5–44.
- Weick, K. E. (1995). *Sensemaking in organizations*. Thousand Oaks, CA: Sage.
- Weick, K. E., & Roberts, K. H. (1993). Collective mind in organizations: Heedful interrelating on flight decks. *Administrative Science Quarterly*, 38, 357–381.
- Weick, K. E., & Sutcliffe, K. M. (2001). *Managing the unexpected: Assuring high performance in an age of complexity*. San Francisco: Jossey-Bass.
- Wenger, E. (1998). *Communities of practice: Learning, meaning, and identity*. Cambridge, UK: Cambridge University Press.
- Wenger, E., McDermott, R. A., & Snyder, W. M. (2002). *Cultivating communities of practice: A guide to managing knowledge*. Boston, MA: Harvard Business School Press.
- Wenger, E., & Snyder, W. E. (2000). Communities of practice: The organizational frontier. *Harvard Business Review*, 78, 139–145.
- Zorn, T. E., & Taylor, J. R. (2003). Knowledge management and/as organizational communication. In D. Tourish & O. Hargie (Eds.), *Key issues in organizational communication* (pp. 96–112). London: Routledge.

Appendix A: Interview Questions

CoP Elements

- How much contact do you have with other RT members/Docents?
- Who do you work with in order to function on the RT/as a Docent?
- Is working together important to you? How?
- What, if anything, have you learned from your fellow RT members/Docents?
- What is different than you expected from your RT/Docent training?
- What have you seen change in the RT/Docent program?
- What led up to that change?
- Is there anything that you do differently than “by the book”? (Interviewees were reassured that this would not be reported to the organization.)
- Where did you learn to do things differently?
- Or, how did this come about?
- In what ways do you feel as though you have input into or influence on the process of the RT/being a Docent?
- What sorts of skills are important to know in order to be a good RT member/Docent?
- When you are talking to other members, what phrases or terms might indicate a person is an RT member/Docent? Is a member of your RT/day team?
- Are those phrases useful or just habitual/amusing? Do they avoid confusion?
- Is that different for new team members?
- Do you think that those phrases or terms are necessary for the RT/Docents?

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