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Interpreting Workplace Learning in Terms of
Discourse and Community of Practice

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ABSTRACT

Based on the ethnographic data collected from the workplace of an academic library, I argue that workplace learning (WL) is a situated socio-cognitive process. It is expedited by knowledge management (KM), which is a collective effort to generate, share, and institutionalize work-related knowledge. KM is inherent in the face-to-face conversational interactions embedded in planned formal training, planned informal sharing, and spontaneous informal learning. When face-to-face interaction is not possible, KM is accomplished through textualization. It helps the members of the workplace acquire new work-related knowledge and integrate it to their common, contextualized knowledge base. The contents of the knowledge base are manifested in the members' professional practices and explicated by their professional/communal discourse. By virtue of their distinctive practices and discourse, the members form a community of practice (CoP) and gain their professional/communal identity. Whenever they engage in KM, perform their practices, and/or use their discourse, they authenticate their professional/communal identity and enact their CoP.

1. INTRODUCTION

Today's society is characterized by change, constant change. Every time there is a change, people have to learn to cope with or adjust to it. In the developed countries, people are experiencing social changes in a faster pace than ever as a result of continual economic, political, and technological developments. It is no exaggeration to say that learning has become part of our lives. Similarly, organizations have to adapt to internal as well as social changes. The needs to learn continuously and to share knowledge among organizational members have emerged in organizations of all sizes, for-profit and not-for-profit alike. In view of the situation, organizations have expended an enormous amount of resources on promoting organizational learning (OL) and knowledge management (KM).

In light of the significance of OL and KM, I contemplate conducting an empirical research study of the human communication involved in OL and KM. The organizational setting for the study will be a library. As Smith and Montanelli (1999) state, librarians in general are spending more time learning in order to prepare themselves for adequate library services (p. 132). When discussing the future development of reference service, Stalker (1999) highlights the significance of librarians' commitment to learning on their own initiative (p. 89). The acute need for ongoing learning and knowledge sharing among reference librarians (and other library workers who also provide reference service) makes the reference team of a library a fertile organizational unit in which to study OL and KM. Based on the findings, I will discuss how the reference staff members co-construct their workplace reality and gain their professional identity through the communicative practices involved in OL and KM. I will also explore the relationship among OL, KM, and group dynamics in terms of human communication. In this respect, this study is in line with Weick and Ashford's (2001) argument that it is valuable to examine the processes by which information is circulated and reality

created in an organization. The findings will help bring out the centrality of human communication in the study of how the organization emerges and advances.

2. LITERATURE REVIEW

One of the treatises on OL is Argyris and Schön's (1978) *Organizational Learning*. They define it as "a process in which members of an organization detect error or anomaly and correct it by restructuring organizational theory of action, embedding the results of their enquiry in organizational maps and images" (p. 4). On the other hand, Senge (1990) theorizes how organizations can transform themselves into learning organizations by means of "shared vision," "personal mastery," "team learning," "mental models," and "systems thinking." Meanwhile, the learning practices in organizations have been differentiated as individual learning, team/group learning, organizational-level learning, and inter-organizational learning (Antal, 2001; Hobbs, 1999; Watkins & Marsick, 1993). These four levels of learning (individual, team/group, organizational-level, and inter-organizational) are interconnected and have similar mechanisms (Hobbs, 1999). They are like Chinese boxes with the subordinate level underlying the supraordinate one.

Since this study centres on the learning and knowledge-managing practices among the reference staff members in a library, the learning at the individual and team/group levels is of the most interest to me. Hence, I decide to use "workplace learning (WL)" instead of "organizational learning" when referring to the learning in the reference team in general. In this way, there will not be confusion between the learning only inside the reference team and the learning in the library as a whole.

The theme of KM at its inception focused on how new technology could store knowledge in an organization and disseminate it to support decision making and to bring about "process reengineering" (Koenig & Srikantaiah, 2002, p. 14; Snowden, 2002, p. 4). However, it turned out that harnessing knowledge with computerization and process reengineering only gave rise to

disillusioning outcomes. At present, KM is being developed in distinct directions by researchers in various disciplines. For instance, Snowden (2002) states that knowledge is “paradoxically both a *thing* and a *flow*” (p. 7, boldface and italics original). Organizations should utilize information technology to transfer it as a thing and channel it as a flow in order to share and leverage it in complex work situations (Norris, Mason, Robosn, Lefrere, & Collier, 2003; Snowden, 2002). Meanwhile, Brown and Duguid (2001a, 2001b, 2002) as well as Wenger, McDermott, and Snyder (2002), among others, assert that cultivating networks of organizational members in the form of “communities of practice” is the key to successful KM. The communities will build and maintain topical pools of collective knowledge for their members to share and explore. Moreover, the shared identity among the members will facilitate the flow of knowledge. Researchers from Computer Science as well as Library and Information Studies, on the other hand, opine that their expertise contributes to the essence of KM. In sum, different disciplines have generated their viewpoints of theorizing and advancing KM. Yet, there is not sufficient communication among them to facilitate mutually beneficial collaboration.

Many studies on WL and KM are investigations conducted by researchers who planned to verify and elaborate certain managerial models. The researchers adopted a positivist approach and attempted to find empirical data as evidence to buttress the pre-existing theoretical frameworks. They largely dismissed the concern that their abstracted frameworks might not be adequate to cover the actual fine-grained learning and complex knowledge-managing practices in disparate workplace situations. As Moore (1996) points out, there exist many sweeping and mechanical models concerning employees’ learning and their underlying cause-and-effect presumptions fail to account for the complexity of today’s organizations (p. 62). Indeed, Boden (1994) argues that learning in an organization is predicated on hiring literate and communicative employees who can well understand the context and immediate logic of their workplace (p. 212-213). On a similar note, Brown and

Duguid (2001b) stress that “what individuals learn always and inevitably reflects the social context in which they learn it and in which they put it into practice” (p. 201). The context usually comprises the workplace, the colleagues, the profession concerned, and some “idiosyncratic external social forces bearing on each individual” (p. 201). WL and KM, therefore, are actually initiated and instantiated by human interaction in a particular social context. Examining the interpersonal communication in the context provides a threshold to figuring out how WL and KM emerge and come to fruition.

In their discussions of how an organization emerges and evolves from the human communication in it, Taylor (1999), Taylor and Robichaud (2004), and Taylor and Van Every (2000) highlight the mutually constitutive relationship between communication and organization. Taylor (1999) emphasizes that “society (including organization) exists not *by* but *in* communication” and that communication should not be regarded “as a function, but as an essence” (p. 22, italics original). Taylor and Van Every (2000) contend that human communication in an organization generates two outcomes that instantiate the reciprocity between communication and organization. The first is that a situation is brought into being through communication that produces “a view of circumstances including the people, their objects, their institutions and history, and their siting in a finite time and a place” (p. 33-34). In other words, organizational members “co-orient” themselves by interpreting and co-constructing an intersubjective reality with reference to the context when they communicate with one another. The second outcome is that a situated discourse is generated, enacted, and perpetuated through the communication among the organizational members. The discourse offers “an interpreted world of collectively held and negotiated understandings that link the community to its past and future and to other conversational universes of action by its shared inheritance of a common language” (p. 34). To put it simply, the organizational members utilize language reflexively in day-to-day interaction to build a communal discourse that helps them reach back to the

organization's history and extend to its future. In this way, the organization's social structure is reproduced from the past and carried forward to the present and the future by means of a communal discourse. According to Taylor and Robichaud (2004), the communal discourse exists in two forms, text and conversation: "Linked to the purposes of organizing, *conversation* is tied to object-oriented and materially based activity. In contrast, discourse as *text* constructs the organization as an object of reflection and interpretation" (p. 397, italics original). Whichever form it manifests itself, the communal discourse "indexes the network of interlocking agencies that make up the object-oriented co-orientation of the organization" (p. 407). In short, human communication, both spoken and written, constitutes the reality of an organization and accomplishes the organizing therein.

In addition, the members of an organization gain their identity when they interpret and co-construct an intersubjective reality in the process of communication. Carbaugh (1995) notes that identity and interpersonal relations "are constantly subjected to an interactive and occasioned process, with repercussions of these being felt not only in, but beyond the present occasion" (p. 276). Meanwhile, organizational members' identity is associated with their professional practice. It is, as Taylor and Van Every (2000) contend, "coemergent with that of the organization" and "contingent on the existence" of a professional community in which the members participate (p. 270). The relationship among identity, communication, and professional practice is vividly illustrated by Orr's (1990, 1996) ethnographic study of photocopier technicians. By examining their day-to-day interactions, Orr concludes that the technicians formed a community of practice and carved out their professional identity with the exchange of "war stories" about fixing photocopiers. Moreover, they built and maintained a "communal memory" with the aid of a communal discourse. In this way, human communication in an organization not only constitutes organizing but also contributes to the formation and maintenance of organizational members' identity and sense of community.

Furthermore, the intersubjective reality co-created by organizational members' communication embodies the sociocultural aspects of an organization. In the words of Pacanowsky and O'Donnell-Trujillo (1983), "a culture is not something an organization has; a culture is something an organization *is*" (p. 146, italics original). The sociocultural features of an organization are not determined by its formal structure or predictable employee behaviours that are susceptible to managerial engineering. They are constituted and enacted communicatively among the individuals in the organizational context. As Geertz (1973) describes, the study of the sociocultural features is "not an experimental science in search of law, but an interpretive one in search of meaning" (p. 5). By centring on the day-to-day human communication and interpreting it with reference to the organizational context, researchers will be able to uncover the interplay among human communication, sociocultural atmosphere, and group dynamics in an organization.

WL and KM in an organization (or a unit of it), therefore, can be construed as instances of organizing by means of human communication with the goal of generating, sharing, disseminating, and institutionalizing the organization's work-related knowledge. They intrinsically encompass organizational members' co-construction and enactment of an intersubjective reality through the "language-in-action" (Boden, 1994) embodied in their communicative behaviour with the use of a communal discourse developed in the organizational context. What constitutes and facilitates WL and KM is not any structural rules or cultural norms imposed by the management. It is the organizational members' communication in a communal discourse, the formation of their professional identity, and their enactment of the sociocultural atmosphere.

Taylor and Van Every (2000) pinpoint that human communication is tied to knowledge sharing and collective learning in two ways. On the one hand, communication provides the "medium" through which knowledge is "transacted" by language-in-action for sharing and learning among a community of organizational members (p. 32). On the other hand, it contributes to the

growth of a distributed knowledge base which is shared and discursively accessible by the members (p. 32). Moreover, “the translation of this shared (or distributed) knowledge through its voicing by” the members enacts “the structuring of the community of work” in their workplace (p. 32). WL and KM, from the communicative perspective, have all along been inherent in various mundane interpersonal interactions in an organization because work-related knowledge is thereby created, pooled, shared, retrieved, and acquired discursively among organizational members to maintain the organization’s operations. The key to uncovering the intricacies of and the interrelations between WL and KM is to conduct interpretive studies of the organizational members’ communicative practices in the workplace context.

According to Weick and Ashford (2001), scholars have approached different aspects of WL from the communicative perspective. For instance, Weick and Ashford (2001) argue that an organization functions as a “marketplace of ideas” where organizational members try to convince one another of their own interpretations of reality (p. 713-714). Communication plays a critical role because it encourages the exchange of novel interpretations (p. 717) and “the individuals with the more developed persuasion skills ought to be particularly adept at shaping the content of their organization’s learning” (p. 714). Moreover, communication is one of the core elements of feedback seeking, which in turn contributes to enculturation and WL (Louis, 1990; Morrison, 2002; Weick & Ashford, 2001). The language and techniques used in the communication process are important to WL. On the one hand, the language should be unequivocal (Weick & Ashford, 2001, p. 721-723) and the content has to be “rich in dynamics, process imagery, verbs, possibilities, and unfolding narratives” to represent “the flow and continuity in which learning is embedded” (p. 724). On the other hand, the communicators involved ought to focus on the learning-related themes, respect different “voices,” and strike a balance between “advocacy” and “inquiry” (Kellest & Goodall, 1999,

p. 184-186). The goal is to create a “dialogue” for the sake of open communication, free flow of ideas, and collaborative learning (Ellinor & Gerard, 1998; Issacs, 1999; Kellett & Goodall, 1999).

The discussions of KM from the communicative perspective have been inclined to exploring the human factor and work processes (Iverson & McPhee, 2002, p. 259). For instance, Giroux and Taylor (2002) and Heaton and Taylor (2002) argue that knowledge generation occurs in a broadly defined “community of practice” and contributes to an intellectual discourse that is instantiated in the interaction among the community’s members. The knowledge is thus community-based and is produced, shared, and managed discursively through the interpersonal interaction in that community. Along this line, Zorn and Taylor (2004) assert that “KM is a process of organizational communication primarily because KM is fundamentally concerned with sensemaking: the construction of meaning by people who are caught up in a practical world of work, with its multiple, and frequently immediate, concerns” (p. 104).

Iverson and McPhee (2002) expound on three KM-oriented communicative actions that are common in communities of practice. “Celebration” is a means to “recognize knowledge accomplishments and problems solved” (p. 263). “Articulation” refers to open, creative discussion of verbalized ideas (p. 263). “Collaboration” is achieved when the members of a community of practice work together and “contribute to knowledge growth in sensitive and appropriate ways” (p. 264). Kuhn and Jackson (2003), in the meantime, contend that the interaction for generating “capacities for action” comprises “knowledge-accomplishing activities,” which are inherently communicative, pragmatic, contextualized, and goal-directed (p. 13). They report that face-to-face knowledge-accomplishing activities surface in the form of “information transfer” and “collaborative hypothesizing.” The “determinacy” of a situation influences what form of knowledge-accomplishing activity will occur (p. 30). Similarly, Gülich (2003) writes that “knowledge transfer” is facilitated by “conversational techniques” such as “reformulation” and “illustration.” The former “consists of

retrospectively characterizing an expression produced earlier on as insufficient or unsatisfactory,” which is followed by the offer of a paraphrased alternative (p. 237). Illustration, on the other hand, is performed by means of “metaphorical language,” “exemplification,” “scenarios,” and “concretization” (p. 241).

3. RESEARCH METHODOLOGY

Based on the contributions of the above-mentioned studies, I carried out this research to examine and analyze WL and KM with reference to the everyday human communication in a workplace. Amid the possible research methodologies was organizational ethnography (Rosen, 2000). Schwartzman (1993) asserts that with ethnography, researchers who study human interaction in organizations are able to “examine the taken for granted, but very important, ideas and practices that influence the way lives are lived, and constructed, in organizational contexts” and thus to “understand the way that everyday routines constitute and reconstitute organizational and societal structures” (p. 4). It became popular in the past decade among researchers who investigated WL and KM in organizations or in units thereof (e.g., Heaton & Taylor, 2002; Henning, 1998; Hovde, 2001; Kuhn & Jackson, 2003; Li, 2001; Orr, 1990, 1996; Schultze, 2000; Smart, 1998). Li (2001), for instance, conducted an ethnographic study of some Taiwanese academic librarians’ WL while Schultze (2000) wrote up a “confessional ethnography” of the “knowledge work” of three types of professionals (administrators, competitive intelligence analysts, and corporate librarians) in an American company. With a “thick description” (Geertz, 1973) of the workplace contexts and work activities, Li and Schultze were able to analyze elaborately how the librarians learned to do their jobs, developed their working knowledge, and discharged their professional practices in situ. In Organizational Communication, ethnography is also recognized as an insightful methodology for figuring out how the intersubjective realities in organizations are co-constructed and interpreted through day-to-day interpersonal interaction (Boje, 1991; Carbaugh, 1988; Carbaugh & Hastings,

1992; Goodall, 1989, 2000; Pacanowsky & O'Donnell-Trujillo, 1982, 1983). Therefore, I decided to adopt an ethnographic approach for this research.

I preferred to conduct the research in an academic library because I understood that the reference staff there had to emphasize and strictly engage in continuous learning in order to provide adequate services to their knowledge-based users. After securing an academic library (hereinafter referred to by the pseudonym, the SLS Library) as the ethnographic site, I finalized the research questions as follows:

1. At the SLS Library, how do the reference staff members communicate to accomplish workplace learning and to manage (share, accumulate, disseminate, and retrieve) work-related knowledge?
2. What features do the reference staff members as a team exhibit with respect to their language use, professional identity, and group dynamics?
3. What relations exist among the reference staff members' workplace learning, knowledge management, language use, professional identity, and group dynamics?

The term, "reference staff members (RSMs)," is used to refer to the library employees who are involved in the preparation for and provision of reference service. They include reference librarians, reference library technicians, and the Systems Librarian. With regard to WL, I focus on that which involves interpersonal communication between two or more RSMs within the physical context of the SLS Library. The RSMs' learning that occurs at professional development events such as conferences and seminars, is not considered. Moreover, the learning derived from the one-on-one interaction between an RSM and a library user is excluded.

I spent 16 hours at the SLS Library every week for the ethnographic fieldwork from October through December 2002. From January through June 2003, I reduced the on-site time to five hours or less per week. The continuous interaction with the RSMs during those six months refreshed my memories of their workplace practices and deepened my understanding of their work life. During the fieldwork period, I attended the RSM's training and meetings so that I could prepare for the

Library's reference service and eventually work alongside the RSMs at the Reference Desk. Yet, I received no remuneration in return. In this way, both the participating RSMs and I myself were the human subjects for the study.

There were four methods of data collection. The first consisted of participant-observation, conversations with the RSMs, and writing ethnographic fieldnotes. The locations where I observed them included the Reference Desk, the Library's computer lab, and the rooms for staff training and meetings. I tried to memorize the salient features of the RSMs' interaction when I was observing them. For my conversations with them, I would capture their main points with the key words that they used.

The second method of data collection was my participation in the provision of reference service. By being a member of the reference team, I was able to work at the Reference Desk and attend staff training and meetings. The interaction with the RSMs provided a means for me to be immersed in the real-life communication concerning WL and KM in the Library. Every time after "working" at the Library, I reported the work experience reflexively in a journal. The self-reflection writings were then categorized and compared with the fieldnotes to identify similarities and discernible patterns.

Being a member of the reference team, I was able to receive the work-related documents distributed to the RSMs. As suggested by Eisenberg and Goodall (2001, p. 352) and Jarvis (1999, p. 111-115), I treated the accessibility to the documents as a data collection method. Those documents ranged from memoranda, training handouts, meeting minutes, to the librarians' informal biweekly work reports. In addition, I gained access to the Library's Intranet and the RSMs' work notes kept at the Reference Desk. After "working" at the Reference Desk for several days, I realized that the Library's web site also played a role in the RSMs' communication. Hence, I included the web pages as work-related documents. All these different types of documents were the Library's textual

artifacts. They provided a window for me to find out how the RSMs communicated with one another to accomplish WL and KM.

The last method was a formal one-on-one interview of some RSMs. By the end of November 2002, I had identified some patterns of the communicative practices involved in the RSMs' WL and KM. In order to verify those patterns, I invited 10 RSMs to a one-on-one semi-structured interview in mid December 2002. Since the reference staff was made up of both librarians and library technicians, I interviewed five members from each group. I wanted to audio-tape the interviews so that I could transcribe the dialogues for future reference. Yet, I sensed that doing so would trigger resistance to the interview or deter the interviewees from opening up. Hence, I chose to jot down concise notes only during the interviews. Then, I elaborated the notes immediately afterwards. During the interviews, I verified with several interviewees my concern over the possible deterrent effect of taping the dialogues. They agreed that such a practice would have caused anxiety and discomfort on their part.

Regarding the ethical aspect, the proposal for this study had been approved by the research ethics committees at The University of Calgary and the parent institution of the SLS Library. The RSMs had the right to decide whether to participate in the study. In the end, 16 of the 23 RSMs signed and returned the participant consent form. For the one-on-one interview, I verbally informed each interviewee of the reasons for conducting the interview before I started it.

To protect anonymity and confidentiality, I will not mention the real name of the SLS Library, its internal policies, and the RSMs' names in the research report or any possible presentation of this study. When it is necessary for me to talk about a particular participant, I will always use *the female personal pronoun* because the majority of the participants were female. Moreover, I will refer to the participant as "RSM-#," where "#" is *a consecutive number that will not be repeated*.

Since I did not tape-record anything during the fieldwork period, I have to reconstruct the conversation according to my observations, fieldnotes, memories, and work experience at the SLS Library. Whereas the technique of reconstruction compromises the authenticity of the conversation, Goodall (2000) argues that it is a legitimate method to present ethnographic data. Another way to present the data will be the narration of my own work experience at the SLS Library. It entails reflexive reports about my communication with the RSMs for the purposes of WL and KM. The reason for having the confessional writings is to utilize my personal “experience to generalize to a larger group or culture” and to “enter and document the moment-to-moment, concrete details” of the work life at the Library (Ellis & Bochner, 2000, p. 737).

4. LEARNING, KNOWLEDGE SHARING, AND COMMUNICATION

To facilitate the analysis of the communication involved in WL and KM, I will employ three conceptual units of the ethnography of communication: “communicative situation,” “communicative event,” and “communicative act” (Hymes, 1972, cited in Saville-Troike, 1982, p. 28-30). The communicative situation maintains a consistent social ecology within which communication takes place. The communicative event is an episode of interaction that is characterized by the same topic, purpose, participants, and setting. The communicative act, which can be performed verbally or non-verbally, carries a particular interactional function such as a request or a command. As a rule, a communicative situation encompasses a cluster of communicative events, each of which is constituted by one or more communicative acts.

I will also examine and quote the words which the RSMs used during the one-on-one interviews. My focus on the RSMs’ language use in the analysis echoes Alvesson and Kärreman’s (2000) and Putnam and Fairhurst’s (2001) arguments that language and language use are increasingly recognized as important resources for organizational communication.

Based on their analysis of the KM literature, Alvesson and Kärreman (2001) charge that “[a] common take on knowledge seems to be to accept or side-step the inherent problems of defining the concept, but go on and use it anyway” (p. 999). In order to avoid that pitfall, I find it appropriate to explain what the RSMs heuristically regard as work-related knowledge in the context of the SLS Library. According to the RSMs, work-related knowledge is “something” that they have to understand or exercise so as to perform their duties, make sound judgments, and/or resolve problems on the job. Usually, that something is tied to information or expertise. For example, the RSMs have to be familiar with the Library’s resources before they can identify the most suitable one(s) to tackle library users’ questions. On the other hand, the RSMs have to be able to put into practice some competencies such as interpersonal skills, presentation skills, and technical know-how. Only in this way will they realize how to effectively assist library users with distinct backgrounds, as well as how to troubleshoot a wide range of technical problems that arise any time in the Library.

On reflection, I as an RSM believe that work-related knowledge encompasses more than an understanding of information and a grasp of expertise. I think that knowledge results from a comprehension of the theoretical concepts that are pertinent to my work duties at the SLS Library. For instance, the fact that I am able to construct search statements with different search fields and Boolean operators (NOT, AND, OR) when using electronic databases, means that I know how information is organized on those databases and how Boolean logic can be applied to yield precise and manageable search results. On the other hand, I also have to realize whether it is socioculturally acceptable to act in a certain way in the workplace. An example is that my understanding of and experience with the reference team’s sociocultural norms help me determine whether it is appropriate to interrupt and volunteer to assist another RSM when I sense that the individual has encountered difficulty in handling a reference question.

Drawing from the RSMs' interpretations and my reflection on the work experience, I contend that work-related knowledge for the SLS Library's reference team can be roughly divided into four domains: 1. An awareness and understanding of the information about the workplace; 2. A grasp of expertise useful in providing reference service; 3. Cognition of theoretical concepts pertinent to library services; and 4. Sociocultural savoir-faire specific to the context of the SLS Library. These four domains to some extent overlap and even converge into the "something" that the RSMs matter-of-factly refer to as work-related knowledge. They are not abstracted but instantiated in the RSMs' professional practices and experiences. Their significance lies not only in their utility in enabling the RSMs to perform their duties in the SLS Library, but also in helping them be recognized as who they are professionally.

On the basis of formality, the communicative situations for learning and knowledge sharing among the RSMs fall into three categories: 1. Planned formal training; 2. Planned semi-formal sharing session; and 3. Spontaneous informal learning at work.

Because of the rapid and continuous change of information technology, the SLS Library plans and organizes "training days" and "brush-up days" for the RSMs. As attested by the RSMs, the training provides them with an opportunity to learn about the new software programs and electronic information resources used at the Library. During a training session, the RSMs sometimes pair up and give presentations on software programs or electronic information resources in which they are interested and/or well versed. Sequentially, a training presentation is usually made up of two communicative events: an explanatory talk on a particular program or information resource, and a follow-up period. The first communicative event consists in the presenters' communicative act of explaining their understanding of the subject, and is often accompanied by a live demonstration and attendees' hands-on practice. The presenters and the attendees form a give-and-take relationship in the sense that the presenters actively share their knowledge while the attendees listen and acquire the

shared knowledge. This communicative event carries a serious tone and sometimes may appear in the form of instruction, with the presenters standing behind a lectern. It is oftentimes characterized by the distribution of handouts or the use of PowerPoint slides.

The second communicative event, a follow-up period, provides a chance for the attendees to seek clarification from the presenters. More often than not, the communicative acts involve asking and answering questions: An attendee raises a question about the subject, followed by the presenters' (or other attendees') effort to offer a satisfactory answer. However, this sequential structure could be disrupted or entirely displaced by some attendees' feedback and/or suggestions if those attendees were knowledgeable about the subject. The attendees might bring up issues that the presenters did not touch on or elaborate. Then, the presenters and the attendees would discuss them. If the subject of discussion was available for use, the presenters and the attendees might test it during their discussion in an attempt to gain a deeper understanding of it. New work-related knowledge might be generated collaboratively in the discussion and hands-on trial and then acquired collectively by the presenters and the attendees on the spot.

While the attendees' questions, feedback, and/or suggestions might seem intrusive or challenging, the presenters are usually receptive to them. The RSMs understand that the follow-up period is the time for interaction and collaborative learning. Indeed, all the RSMs whom I interviewed believed that it was not offensive to ask questions or to provide feedback and/or suggestions. As RSM-3 (who was often a presenter in training sessions) pointed out, the presenters "appreciated the questions" and thought that it was a way to share information. If somebody could share information about the Library's resources, they were welcome. In sum, the training and presentations planned and organized by the Library provide a formal communicative situation for the RSMs to share their knowledge, experience, and insights.

Another communicative situation for learning and knowledge sharing is the planned staff gathering and sharing session known as “Tech’s Break” (a pseudonym). It differs from training in that it is open to all staff members of the Library and that it is organized weekly by the systems librarian. The topic usually revolves around the information technology utilized at the Library even though sometimes it stems from the contents of the workshops, seminars, or conferences which some staff members attended. Similar to the formal training, Tech’s Break is conducted in the form of a presentation with PowerPoint slides. However, it is a semi-formal communicative situation, as shown by the fact that the presenter usually sits with the attendees and that the attendees do not receive any handout and do not have a chance for hands-on practice. Moreover, the atmosphere is light and there are cookies for the attendees, who sometimes bring their own drinks. The presentation consists of two communicative events: an explanatory talk on the topic and a feedback time. Yet, it is common that they blend together. Attendees may ask questions as feedback or suggestions every now and then during the talk. Brief dialogic discussions ensue among the presenter and the attendees. Then, the presenter resumes the talk. The spontaneous questions and discussions are not considered intrusive but are welcome and expected. They prompt the presenter and the attendees to think over some issues. Yet, because of the short duration (20 to 30 minutes) of Tech’s Break, not many questions are raised and the discussions are momentary. As a result, the discussions usually do not blossom into forums for the RSMs to generate new work-related knowledge collaboratively. Instead, they more likely bring about opportunities for the RSMs to learn from one another by sharing their ideas, experiences, and/or insights. They function more as supplementary conduits to promote and facilitate ongoing learning and knowledge sharing in a casual manner.

Learning and knowledge sharing among the RSMs are not confined to planned communicative situations only. Indeed, they very often happen spontaneously when the RSMs are at

work. Their natural habitat is the Reference Desk although they also come up during staff meetings and work-time conversations. In general, the spontaneous informal learning involves only two or three RSMs, and it emerges in the form of certain communicative practices.

The most common way for the RSMs to acquire work-related knowledge is to raise a question spontaneously when they are not able to tackle a problem at work. The question is usually brief and straightforward. For instance, the RSMs at the Reference Desk often ask one another about how to fix some minor problems of the networked printers. Every time they do that, they initiate an impromptu communicative event of knowledge sharing with the communicative act of asking a question. The RSM who answers the question shares her knowledge and the RSM who asked the question learns how to deal with a glitch.

The Reference Desk is always staffed by at least two RSMs from 10:00 a.m. to 7:30 p.m. (except during the term break). Sometimes, no library users come to the Reference Desk to seek help at all. During such down time, the RSMs often share their knowledge and experiences by volunteering to tell work stories that have three main components: 1. Identification of a reference question or technical problem (from the equipment in the Reference Desk area) that an RSM encountered; 2. An account of the action that the RSM took to tackle the question or problem; and 3. A description of the outcome of the action. (Refer to Appendix A for example) While the RSMs usually tell work stories at the Reference Desk (where most of them originated), they also do so during meetings and work-time conversations. Verbalizing episodes of work life serves to share knowledge and insights from the narrating RSM and to facilitate learning on the part of the listening RSM(s).

Sometimes, the RSMs tell another type of work story when the traffic of reference requests is low. The work story contains two major components: 1. Identification of a thorny reference question or technical problem that an RSM had to deal with; and 2. Making a request for advice on how to

deal with the question or problem. A non-essential component can appear in the middle for the storyteller's admission of failure to properly answer the question or to resolve the problem. The purpose of telling the story is to bring up the question or problem and then to consult the listener for advice. (Refer to Appendix B for example)

Storytelling as a communicative event, whether it be plain narration or oriented towards consultation, seems to have become a common part of the RSMs' work life. Oftentimes, the work stories serve as leads for learning and knowledge sharing. As a new RSM, I figure that they also socialized and acculturated me by introducing me to episodes of how the RSMs provided reference service at the SLS Library. The RSMs' behaviours narrated became examples and implicit guidelines for me. Gradually, I understood what role I should play when serving library users. Such understanding accumulated and consolidated into my background knowledge about working on the reference team at the SLS Library.

Another form of knowledge sharing occurs frequently when the need for reference service is low. If only one library user approaches the Reference Desk, one of the RSMs there will greet the user and offer help. Since the reference area is quiet, it is not uncommon that the idle RSM(s) hears how the other RSM answers the user's question. If the hearing RSM(s) senses that her colleague encounters difficulty in answering the question or has not provided the most appropriate answer, she might interrupt and volunteer to offer assistance to her colleague and the library user. (Refer to Appendix C for example)

As abrupt and intrusive as the knowledge-sharing interruption may seem, the RSMs do not mind. In fact, they expressed gratitude to the unsolicited help and suggestion during the one-on-one interviews with me. They generally thought that since the reference area was open and quiet, it was inevitable that an RSM would hear and follow the process of a reference transaction conducted by a co-worker. Moreover, they felt that there was a "practical need" for the interruption because each

RSM specialized in a broad subject area and might not be familiar with certain subject-specific information resources. The interruption, therefore, provided a prime opportunity for them to share what they knew about the library resources. Nevertheless, the interviewees added that whether they would initiate a knowledge-sharing interruption was contingent on the interpersonal dynamics in the reference transaction. If they believed that it was appropriate for them to chip in, they would do it respectfully and diplomatically so as to avoid taking over the reference transaction. On the other hand, if a co-worker interrupted them and suggested an alternative answer to a reference question, they usually would not feel offended. Instead, they would appreciate the unsolicited help and take the chance to learn something new. RSM-19 commented that it was a “common practice” for the RSMs to jump in and share information during a reference transaction. She emphasized that the goal of the interruption was to “help each other” in a “collegial” and “service-oriented environment.” She had done that and would not harbour any negative feelings towards a co-worker who interrupted her.

The RSMs at the Reference Desk sometimes collaborate to help a library user, especially when the reference request is low and the user’s question is complicated and challenging. (Refer to Appendix D for example)

During the one-on-one interviews with me, the interviewees opined that individual RSMs’ personality and the interpersonal dynamics in a reference transaction would to some extent determine the possibility of a collaboration. However, they pointed out that collaboration was a common way for them to provide reference service and to “maintain service quality.” They admitted that when they were not able to handle a reference question, they would count on one another for help and collaboration. Moreover, continuous learning was expected of all RSMs. It was a practical need and a professional obligation. Therefore, the RSMs were willing to share what they knew for the sake of collaborative learning. It was an expedient way to help themselves keep afloat in a rough sea of reference questions and technological advancements.

The spectrum of communicative situations, events, and acts for learning and knowledge sharing at the SLS Library are summarized in Table 1:

TABLE 1
Summary of Communicative Situations for Learning and Knowledge Sharing

Modes of learning and knowledge sharing	Communicative situations	Communicative events involved	Communicative acts involved
Planned formal training	Training session (known as “training day” or “brush-up day”) made up of presentations	1. Explanatory talk 2. Follow-up period	1. Explaining 2. Asking and answering; suggesting and acknowledging; dialogic discussion
Planned semi-formal sharing session	Tech’s Break	1. Explanatory talk 2. Feedback time	1. Explaining 2. Asking and answering; suggesting and acknowledging; dialogic discussion
Spontaneous informal learning	Meeting; reference transaction; work-related conversation	1. Elicitation and acquisition of knowledge 2. Storytelling 3. Consultation-oriented storytelling 4. Interruption (mainly in reference transactions) 5. Collaboration (mainly in reference transactions)	1. Asking and answering 2. Narrating 3. Narrating; asking and answering 4. Interrupting for making a suggestion, and acknowledging 5. Asking and answering; suggesting and acknowledging; dialogic discussion

The planned formal training provides a centralized communicative situation in which the RSMs gather to share and generate work-related knowledge, to celebrate their experiences and insights, and to increase their involvement in the reference team. It contributes to the RSMs’

professional development and enhances the Library's reference service. The planned semi-formal sharing session, on the other hand, provides a casual yet centralized communicative situation for learning through knowledge sharing. It reminds the RSMs (and other library employees) of the significance of continuous learning and mutual sharing. In contrast, the spontaneous informal learning as a communicative situation is much more random, frequent, decentralized, and individualized. It is usually led off by two to three RSMs, and takes place naturally in various fashions whenever the RSMs work together. Owing to its sheer flexibility and frequency, it is the major means for ongoing learning at the Library. It gives rise to knowledge sharing, knowledge creation, or both.

The communicative acts involved in learning and knowledge sharing can be categorized into three groups. The first consists of unidirectional knowledge-imparting techniques such as explaining and narrating. They are employed when an RSM possesses specific work-related knowledge and is willing to share it with another/other RSM(s). The second group exists in the form of asking and answering as well as suggesting and acknowledging. These communicative acts are performed to achieve knowledge sharing between two RSMs who have different degrees of mastery of a topic or subject. The RSM who answers or makes a suggestion is the one who knows more. The third group is made up of dialogic discussion. It is conducive to both knowledge sharing and knowledge creation. However, as shown in the communicative events of training presentation and collaboration, dialogic discussion is often coupled with hands-on trial before the RSMs are able to generate new knowledge. Utilizing these mundane acts, the RSMs habituate themselves to the communicative events identified and accomplish knowledge sharing and/or knowledge generation recursively. These communicative events (or practices) constitute social processes that are fundamental to and embedded in the RSMs' professional development, socialization, work coordination, and involvement in the reference team.

Oftentimes, learning and knowledge sharing at the SLS Library occur in communicative situations in which two or more RSMs are co-present. According to the RSMs, face-to-face conversational interaction is the “preferred,” “most common,” and “most important” channel for communicating, learning, and sharing. It is popular because it offers an easy, clear, and straightforward way to “convey quality information.” Only when it is difficult or time-consuming for them to meet will they rely on telephone. Even then, they still prefer conversational communication.

Nevertheless, the RSMs raised the point that face-to-face interaction cannot accommodate a large number of participants (except in planned training or sharing sessions). As the spontaneous informal learning is the major means for ongoing learning but usually involves only two or three individuals, the RSMs textualize their work-related knowledge and share the texts through five different channels.

The first channel is internal documents. During training sessions, some presenters distribute handouts to the attendees. The handouts serve two purposes. They help the presenters share their knowledge with the attendees, and aid the attendees in understanding the presentation. The gist of the presentations recorded on the handouts is for the attendees’ reference. Handouts are also given to new RSMs for the purpose of orientation. Usually, the handouts offer instructions on how to perform some tasks.

Internal documents such as memoranda, minutes of staff meetings, and reports of the Library’s internal studies also serve as vehicles for communication among the RSMs. Nevertheless, they are geared more towards conveying information that concerns the administrative aspect of reference service. Moreover, they do not circulate as widely as handouts.

Sitting between the two front corners of the Reference Desk is a handy and important tool for textualizing and sharing knowledge among the RSMs. It is a notebook for dated, brief messages and

questions that are related to specific tasks in the reference area and the immediate operations of the Reference Desk. It is divided into several sections so that the RSMs can jot down new notes and search for previous notes according to their nature. By going over the notes, the RSMs are able to track down the development of service-related issues. They are also able to find out what issues or problems need immediate attention. When an RSM figures out the answer to a recurring reference question or the solution to a frequent technical problem, she will write it down on the notebook so that other RSMs will benefit and understand how to deal with it. (Refer to Appendix E for example) In this sense, the notebook functions as a repository to which the RSMs contribute their (newly generated) knowledge for sharing, and from which the RSMs acquire new knowledge and then apply it to the immediate context. It is a pool for knowledge exchange and a resource for the spontaneous informal learning among the RSMs. Moreover, the notebook provides a vehicle for succinct communication among the RSMs who do not have a chance to discuss work issues and problems face-to-face. It liberates them from the temporal and spatial constraints.

The textualization of learning and knowledge sharing is also carried out in the electronic format. One of the ways to achieve it is the utilization of the electronic mail system of the Library's parent institution. (Refer to Appendix F for example) Generally speaking, the RSMs regard e-mail as an effective channel for "mass distribution of information" and quick group communication. They also rely on it for asynchronous communication, which helps them break free from the temporal and spatial constraints. At the same time, e-mail messages function as a type of knowledge repository. They expedite knowledge exchange among the RSMs. Yet, the knowledge shared via e-mail tends to centre on general issues or policies about reference service (and other library affairs). While it contributes to the RSMs' background knowledge about the Library, it might lack the depth, specificity, or immediacy of the knowledge captured in the notebook at the Reference Desk.

Another means to textualize knowledge electronically is the RSMs' compilation of web pages, which are categorized and linked to one another to form the different sections of the Library's web site. Some web pages contain knowledge and insights generated by the RSMs over the years. For instance, the web page, "Find an Article," provides explanatory summaries about the coverage and contents of the Library's databases. In addition, under the heading, "Other ejournal lists and sources," there are annotations which indicate that the web page author knows about the resources. (Refer to Appendix G for illustration) Similar annotations are also present on other web pages such as "Find a Statistic." Moreover, the web pages constituting the "Internet Subject Guides (ISGs)" list free, reliable Internet resources on a wide range of subject areas. Almost all ISGs consist of five components: "Reference Collection," "Articles," "Great Sites," "Other Lists of Good Links," and "Other Library Internet Guides." They are the outcomes of the RSMs' textualizing their insights and experiences. In addition, the collection of ISGs also serves as a directory of the RSMs' expertise and specialization. At the bottom of each ISG is the name of the RSM who is responsible for authoring and maintaining it. If an RSM is in need of consultation on a particular subject area, she can track down the Library's expert in it by checking the relevant ISG. Although the Library's web site was developed with a view to extend services to off-campus users, it is heavily used by the RSMs themselves during the provision of reference service. It functions as an up-to-date clearinghouse of work-related knowledge and assists the RSMs in identifying or locating useful information resources.

The Library's Intranet functions as yet another channel for knowledge sharing. It comprises the following folders: "Announcements," "Documents," "Director's Report," "Annual Report," and "Minutes." As RSM-33 noted, the Intranet is "an archive" for the Library's administrative documents (those described by the folders' titles). The handouts and PowerPoint slides for training presentations were also uploaded there for the RSMs' (and other library employees') reference.

When asked about their use of the Intranet during the one-on-one interviews, almost all the 10 RSMs admitted that they did not have the habit of visiting the Intranet. It is obvious that the Intranet does not disseminate up-to-date work-related knowledge as e-mail messages and the Library's web pages do. Instead, it is socially constructed as "an archive" and a virtual cabinet for storing the Library's administrative records and training materials. It digitally preserves the documents that textualized the history and developments of the Library.

In sum, the RSMs strategically utilize different textualizing resources to help themselves with knowledge sharing when they are not able to communicate face-to-face. The use of the resources can be mapped onto the three types of communicative situations in which learning and knowledge sharing are embedded, as shown in Table 2:

TABLE 2
Resources/Channels for Non-Face-to-Face Knowledge Sharing

Modes of learning and knowledge sharing	Communicative situations for face-to-face learning and knowledge sharing	Resources/Channels used to substitute face-to-face communication for knowledge sharing
Planned formal training	Training session	Handouts (especially for those who could not attend training sessions)
Planned semi-formal sharing session	Tech's Break	Handouts (especially for those who did not attend Tech's Break)
Spontaneous informal learning	1. Meeting; 2. Reference transaction; 3. Work-related conversation	1. Library's internal documents (handouts, memoranda, minutes, reports, etc.); 2. Notebook at Reference Desk; 3. E-mail messages; 4. Library's web site; 5. Library's Intranet

It is clear that the spontaneous informal learning is the most flexible of the three modes of learning, for it can be accomplished by a variety of communication channels. It explains why the spontaneous informal learning is the most frequent and individualized mode of learning at the Library. Among the five channels discussed above, most of the interviewed RSMs noted that e-mail was the most common and important because of its rapidity and wide coverage of recipients. The notebook was, as RSM-34 described, “the secondary channel for communication.” However, it is handy for finding the information most needed for the immediate operations of the Reference Desk. Although the RSMs did not mention the Library’s web site often, it is undeniable that they have been using it as a conduit for knowledge sharing due to its ease of access and extensive coverage. Since the communications in these channels are concise, they contribute mainly to knowledge sharing. Knowledge creation is usually not the outcome. The strategic use of these channels shows that when the RSMs are not able to share knowledge by mean of face-to-face interaction, they adapt available resources to support their learning and knowledge sharing through communication. The utility and significance of the resources are not determined by their state-of-the-art-ness but socially constructed by the RSMs with reference to their communication habit and the workplace context.

The textualized messages conveyed through the channels serve as repositories of the RSMs’ knowledge, insights, and experiences. They crystallize into a contextualized discourse that is unique to the RSMs, and they capture, store, and disseminate knowledge that might otherwise be lost over time. Moreover, they help illuminate the distribution of expertise in the Library, which expedites consultation and knowledge exchange among the RSMs. In this sense, textualization plays a crucial role in the RSMs’ learning and knowledge sharing by preserving their knowledge in tangible forms and by helping maintain the solidarity of the reference team.

5. REFERENCE STAFF AS A COMMUNITY

The interviewed RSMs in general said that they did not encounter difficulty in communicating with their co-workers. As RSM-35 commented, the RSMs were “on the same wavelength” and had “total communication” by speaking “the same language” and by utilizing different communication tools. Indeed, the language used by the RSMs, both spoken and written, forms a characteristic discourse for the reference team. It anchors in and evolves from the RSMs’ professional practices. Its vocabulary is predicated on the literature and professional practices of librarianship. For example, librarianship terminologies such as “information literacy,” “call numbers,” “content embargo,” “Boolean operators,” “truncation marks,” etc., are adroitly and heuristically utilized by the RSMs in their workplace communications. The very presence of these terminologies shows that the RSMs’ language (and professional practices) is a manifestation of their knowledge of librarianship. It crystallizes into a professional discourse that characterizes the RSMs as reference service practitioners who are conversant with the professional practices of (academic) librarianship.

At the same time, the RSMs’ language is rooted in the context of the SLS Library where their professional practices are actualized. Its vocabulary revolves around the particularities of the reference service in the Library. While some jargons are self-explanatory, others would not make sense to anyone who has never engaged in the Library’s reference service. For instance, terms such as “Ask a Pro,” “Tech’s Break” (a pseudonym), “TAL,” and “mature students” convey definite meanings and connotations to the RSMs. It is apparent that merely a knowledge of (academic) librarianship would not be sufficient to enable an individual to communicate with the RSMs. Instead, engaging in the Library’s reference service practices is the key to gaining a background knowledge of the reference team and to attaining the ability to decipher and master the RSMs’ contextualized language. In this sense, the RSMs’ professional discourse also functions as a

communal discourse. On the one hand, it embodies the RSMs' knowledge of (academic) librarianship as applied to the context of the SLS Library. On the other, it reflects the solidarity and uniqueness of the RSMs as a community of practice (CoP).

Being the members of the community, the RSMs are able to read, write, and understand their discourse in both professional and communal ways. Every time they use the discourse, they not only legitimize and (re)generate the discourse heuristically and communally but also affirm and validate their professional/communal identity (being the RSMs at the SLS Library). The RSMs' language, in other words, embodies and perpetuates the professional and communal features inherent in the reference team by discursively bonding the RSMs together and by characterizing them as the members of a CoP in the context of the SLS Library. It transcends the temporal and spatial constraints, and serves as the medium for the RSMs to access the common workplace knowledge base shared among them. It also contributes to the RSMs' "co-orientation" (Taylor & Robichaud, 2004; Taylor & Van Every, 2000) and thus helps them co-construct and interpret an intersubjective workplace reality where they can communicate, collaborate, and coordinate their tasks. In this way, the professional/communal discourse facilitates the RSMs' learning and knowledge sharing in spite of the temporal and spatial constraints in the workplace.

When the RSMs alter their professional practices due to changes in the workplace context, they also correspondingly modify the professional/communal discourse to reflect the alteration. For instance, as the library instruction is increasingly geared towards the research needs of specific courses, the librarians have been updating the content of the instruction. Accordingly, they replace the term, "bibliographic instruction," with another, "instruction in information retrieval and evaluation," which better describes the nature of their instruction and links it to the courses' learning outcomes. Such change in terminology reveals that the RSMs use their professional/communal discourse flexibly and reflexively with reference to their common workplace knowledge base, their

professional practices, and the particularity of their workplace context. They are knowledgeable agents who create, maintain, and use the discourse. Whenever they introduce a new concept and/or practice for a change or innovation in the workplace, they enact the concept and/or practice by correspondingly adding a new term to the discourse. By using the term (and performing the corresponding practice) recursively, they integrate the concept and/or practice into their common workplace knowledge base. That in turn contributes to their intersubjective construction and interpretation of the workplace reality.

Based on my interactions with the RSMs during the fieldwork period, I sensed that they have organized themselves into a supportive CoP. They share the mandate of serving library users, and are ready to help one another in the provision of service. When asked to describe the reference team, the RSMs (especially the newer ones) used words such as “open,” “friendly,” “collegial,” “helpful,” “trusting,” “nurturing,” “appreciative,” “collaborative,” “complementary,” and “mutually respectful.” Indeed, whereas the reference team consists of both librarians and library technicians, the interviewed RSMs (five librarians and five library technicians) attested that the difference in status among them was not a matter of concern when they worked together at the Reference Desk. As RSM-37 commented, the Reference Desk was a “non-threatening,” “respectful” environment that “provide[d] support and help to library users and the colleagues.” Meanwhile, the interviewed RSMs did not suspect that an RSM who asked for help or collaboration was trying to shirk. They understood that they had to “work together to provide good library services.” In RSM-38’s words, it was “teamwork” that they did at the Reference Desk. They “trust[ed] each other and work[ed] well together.” All in all, the RSMs’ affability cultivates mutual trust, respect, support, and rapport among them, which in turn fosters a collegial and nurturing communal atmosphere. It is in such an understanding context that the RSMs gain their professional/communal identity and become

accustomed to performing at ease various communicative practices for learning and knowledge sharing.

In addition, the RSMs uphold the same goals with regard to their service. One of them concerns continuous learning. During the library staff planning day four years ago, they (and other library employees) discussed their workplace situations and reached a consensus: There was a “practical need” for continuous professional development as a consequence of the expansion of the SLS Library’s parent institution as well as the constant change in the technologies utilized in the provision of reference service. Since then, the RSMs have been actively engaging in continuous learning and knowledge sharing with the encouragement and assistance from the Library. Under such circumstances, the RSMs do not merely work together. They have recognized the significance of continuous learning, have consensually set it as a communal goal, and are committed to achieving it. To learn and share knowledge continuously is not so much a managerial order imposed on them as a voluntary act for accumulating professional assets, expediting career advancement, and reinforcing communal rapport.

In sum, the RSMs as a CoP have forged an interdependent and collaborative working relationship among themselves in a collegial and mutually trusting atmosphere. They learn together and share their work-related knowledge willingly. The mutual respect and assistance enhance the RSMs’ interpersonal relationships and further the communal rapport. The interplay of these factors gives rise to the recursive occurrence of the above-mentioned communicative practices for the accomplishment of continuous learning and knowledge sharing.

Grounded in the empirical data discussed, I conclude that WL is a socio-cognitive process situated in a particular workplace context. It is expedited by KM, which is a collective effort among the members of the workplace to (generate and) share new work-related knowledge. The purpose of KM is to disseminate and institutionalize the new knowledge so that the members can acquire

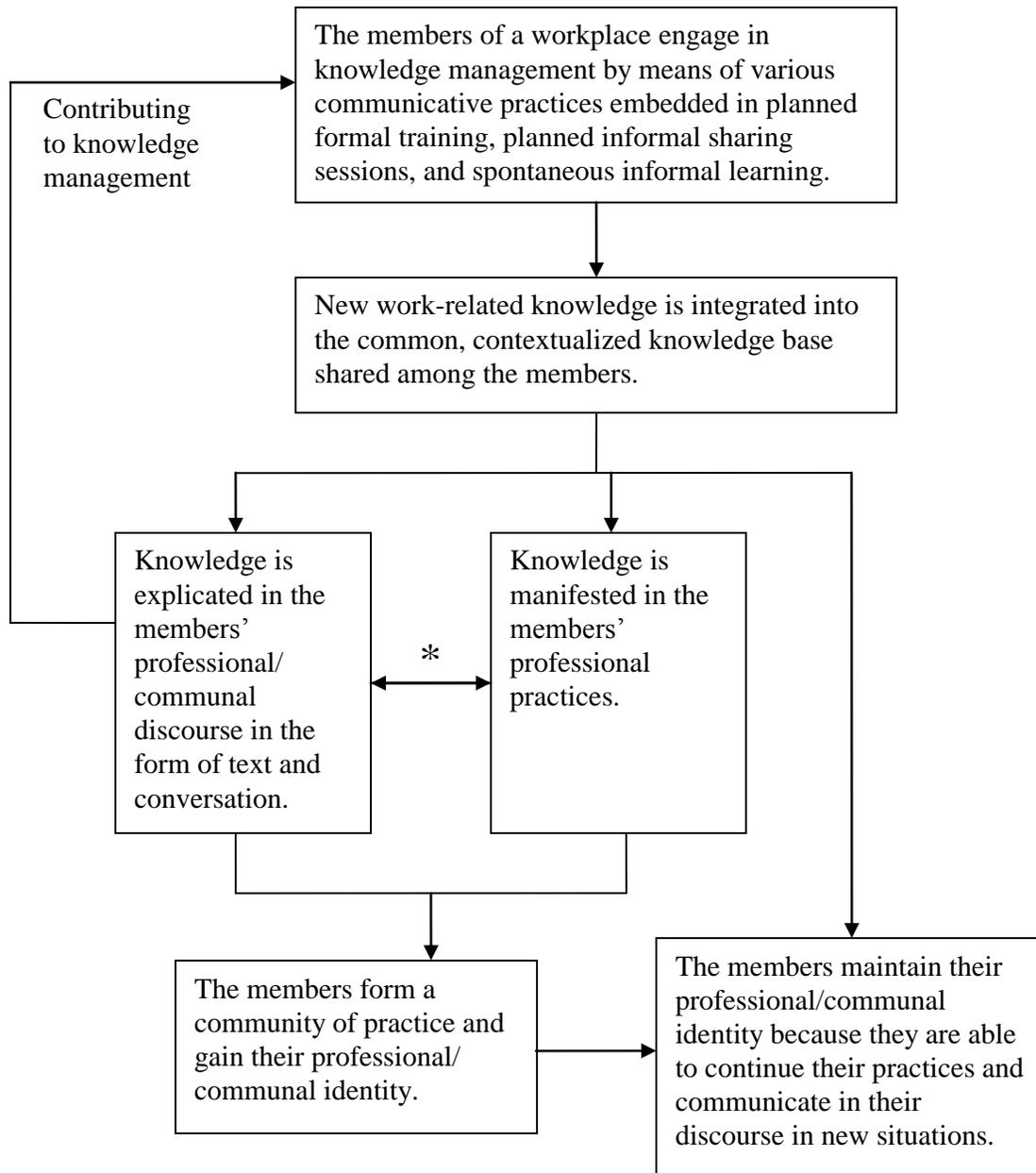
called-for information and skills in a timely manner and thus benefit professionally. KM is often accomplished in face-to-face conversational interaction with the performance of certain communicative practices. When face-to-face conversational interaction is not possible, the members of the workplace utilize available resources strategically to pull off KM. While the channels employed vary across contexts, textualization is always involved in the non-face-to-face KM-oriented communication. It offers the advantage that the knowledge to be shared is recorded in textual repositories that transcend temporal and spatial limits. It is also indexical of the existence of a common, contextualized knowledge base in the workplace.

Contingent upon the practical need and the group dynamics, the KM-oriented communicative practices (both face-to-face and textualized) may sediment into some recursive interactions among the members of the workplace. Thanks to KM, the members acquire new work-related knowledge and integrate it into their common workplace knowledge base. The content of the knowledge base is manifested in the members' professional practices and explicated by their language. As the language evolves from the members' professional practices and is rooted in their workplace context, it exists in the form of a professional/communal discourse. The discourse reflects changes or innovations in the workplace, and helps the members co-construct and interpret an intersubjective reality where they are able to communicate, collaborate, and coordinate their tasks. By virtue of their distinctive, context-based practices and discourse, the members of the workplace form a CoP and gain their professional/communal identity. Every time they participate in KM, engage in the professional practices, and/or use the discourse, they authenticate their professional/communal identity and enact their CoP.

By means of KM, the members of a workplace enter into WL and build a CoP with a common, contextualized knowledge base. The community members develop their knowledge base with respect to the workplace context over time in order that they can continue their professional

practices in new situations. At the same time, they alter their professional/communal discourse in tandem with the development of their knowledge base. In this way, they are able to perform their professional practices, communicate with one another in their discourse, and maintain their professional/communal identity in the changing environment. Last but not the least, the community members are able to pursue future WL and KM collaboratively on the foundation of their knowledge base. The interconnections among WL, KM, discourse, and CoP are illustrated in Figure 1 on the next page.

As a socio-cognitive process, WL takes place in a CoP every day. Embedded in the process are KM activities that expedite learning and knowledge sharing among the members of the community by means of (mediated) human communication. While KM is susceptible to some managerial measures, it is not at all a new phenomenon created and engineered by managers. Instead, it comes into existence partially (if not mainly) through everyday mundane interpersonal interactions in which the members of the community participate in order to maintain their professional/communal identity in a changing workplace environment. Both WL and KM are context-sensitive and are not determined by whatever hard-and-fast rules or overgeneralizing best practices. In addition, professional practices, language (in the form of a professional/communal discourse), identity, and group dynamics play pivotal roles in maintaining the cohesion of the community. On the basis of the previous discussions, I am going to raise several issues that warrant future studies.



* The members' professional/communal discourse develops in tandem with their practices.

Figure 1. Workplace Learning as a Socio-cognitive Process in a Community of Practice

Given the fact that spontaneous informal learning is the major way to generate, share, and acquire new knowledge among the members of a CoP, managers have to reconsider their roles and practices as well as “re-think *management*” (Zorn & Taylor, 2004, p. 111, italics original). In

Plaskoff's (2003) words, the development of a CoP and the nurturing of WL therein require "significant adjustment in the organization and in management's attitudes toward the structures within those organizations" (p. 179). However, as Zuboff (1988) points out, some managers cling to the traditional top-down supervision style and tend to discourage informal discussion among their supervisees (p. 201-202). If managers plan to promote WL and KM, how should they view and handle small talks among their supervisees during work hours? Moreover, how can they keep themselves up-to-date with the CoP's practices and discourse? How will their KM-oriented collaborations with supervisees impact their workplace authority? How can they assume and retain their hierarchical authority in the face of employee empowerment? Answers to these questions will help create a workplace that is rewarding and fulfilling to both managers and employees.

The introduction or utilization of new information technology to expedite WL and KM in a CoP should take into account the characteristics of human communication in the community. Whereas state-of-the-art technologies can bring about convenience and accelerate the dissemination of information, they have to be adopted and integrated into the community's communicative practices before they can take effect in contributing to WL and KM. According to Orlikowski (2000), the use of technologies is "not external or independent of human agency" but stems "from people's repeated and situated interaction with" them (p. 407). Unfortunately, it seems that some managers are (still) not aware of these arguments. As pointed out by Gilmour (2003) and Plaskoff (2003), corporations have invested billions of dollars in new technologies and have been blindly thinking that the utilization of them will enhance interpersonal relationships and automatically generate WL and KM. But the fact is that "high use of IT [information technology] does not necessarily make a strong CoP" for learning and knowledge sharing (Hara & Kling, 2002, n.p.). Moreover, face-to-face communication can be more effective than any state-of-the-art technologies in expediting KM (Bailey & Hendrickson, 2004). In short, the development of workplace

informatics for the sake of WL and KM has to consider the utility of the technology with regard to the workplace context and the communication habits therein. What the management should take note of is not how many sophisticated features some new technology offers, but whether and how the members of the workplace will actually adopt and integrate the technology to their day-to-day communication.

Scholars in Business Management have been advocating that leaders create, develop, and maintain proper cultures to improve organizational effectiveness (Brownell, 2003, p. 45). While the sociocultural aspect of a CoP is to some extent amenable to the managerial policy and rhetoric, it does not succumb to the manipulation of the management. As social agents, the members of the community can choose to defy the managerial policy and act in a way that is more congruent with their own beliefs. In Wright's (1994b) words, those employees engaged "in a creative process of producing culture from mundane details of their work and through innumerable and infinitesimal transformations of the dominant culture, adapting it to their interests" (p. 24, cited in Iedema & Wodak, 1999, p. 12). As the findings of this study show, commitment, trust, rapport, and mutual respect among peers carry immense weight in the generation of volunteered assistance and collaboration. If the members of the community understand the practical need to share knowledge and recognize its significance for collective good and career advancement, they may be more willing to engage in knowledge sharing and ongoing learning. Meanwhile, interpersonal conflicts in the community may dampen the effort to promote WL and KM. Hence, the repercussions of interpersonal conflicts on WL and KM as well as ethical ways to handle them will be worth researchers' attention.

In addition, the professional/communal discourse generated in a CoP is of the essence in WL and KM. It is the medium with which KM-oriented communicative practices are performed and the content of the community's knowledge base is explicated. Therefore, the development trajectory of

the discourse can be a worthwhile topic for future studies. An understanding of the development trajectory will help a CoP reflect on how its members construct and appropriate the discourse. It might provide the individuals with hints for facilitating their own WL and KM. It might also shed light on issues related to the communication and knowledge sharing between different CoPs.

In conclusion, human communication is vital and central not only to WL and KM but also to the very existence of the community. It is the means and the medium for the organizing and coordinating in the community. In light of this, scholars of Organizational Communication should collaborate with their counterparts in other disciplines and develop an interdisciplinary approach to the research into organizational operations.

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APPENDIX A

1. RSM-10: Three students came to the Desk this morning and asked how to look for
2. information about personal care products for men.
3. RSM-11: It's an interesting topic.
4. RSM-10: Yes, it was. They're working on a group project about the development of
5. personal care products and services for men. They wanted to find statistics about the
6. sales of men's skin care products and the markets of cosmetic services targeted at
7. men. They were also looking for information about the trends of those products and
8. services.
9. RSM-11: So what did you tell them?
10. RSM-10: Once I used [name of a reference book] and found some statistics about that kind
11. of products. So I took the students to the shelf and told them to try it. I also flipped
12. through several other books sitting on the shelf, and told them those books could be
13. useful.
14. RSM-11: Had they searched the databases?
15. RSM-10: No. They came straight to the Desk for help. I told them to use [names of two
16. databases], and showed them how to search them. They got excited because there
17. were quite a few articles written on that topic already.
18. RSM-11: Maybe there'd be statistics and relevant analyses available from the web sites of
19. some professional associations.
20. RSM-10: I did a search on Google and found some associations for manufacturers of
21. personal care products in general. I printed out the list of associations, and told the
22. students to check out those sites and see if there're any goodies.
23. RSM-11: Sounds good!
24. RSM-10: Then, there was a student waiting for help. So I told the three students to try all
25. those resources first. I also told them they could make an appointment with [name of
26. RSM-12] if they needed more advice on getting the information.
27. RSM-11: They could also talk to [name of RSM-13] for the statistics. I bet she's done some
28. similar searches for students.
29. RSM-10: Yeah. Well, maybe the students would come back later.

Example 1. Voluntary Storytelling for Knowledge Sharing (Reconstructed on the basis of my observation of and participation in the reference service at the SLS Library)

APPENDIX B

1. RSM-14: Just now, there was a student looking for the chemical properties of a mineral
2. called magnesite. I took him to the shelf for [names of two reference books]. But
3. there was not much information about the mineral. So I checked two other books in
4. that [reference shelf] area and showed him what I got. But he still wasn't too happy
5. about what was available. He said he was looking for information related to how the
6. mineral's chemical properties affected its use in the fireworks industry. I wasn't
7. sure what other resources could be useful to him. Do you have any suggestion about
8. where to get that kind of information?
9. RSM-15: Did you try [name of an electronic reference tool]? I think you might get that
10. kind of information from it.
11. RSM-14: Oh well, I didn't mention that to the student.
12. RSM-15: Let's see if there's anything relevant in it ...
13. *[RSM-15 accesses the electronic reference tool on her computer while RSM-14 is standing*
14. *next to her watching. Then, RSM-15 performs a search for magnesite.]*
15. RSM-15: There're several entries for magnesite. ... *[scanning the entries retrieved]* ... It
16. seems the second entry is the most relevant to the fireworks industry. And there's a
17. see-also note for magnesium carbonate. Maybe the student could try this and search
18. under magnesite and magnesium carbonate.
19. RSM-14: Uh hah. I think the student just looked over those reference books quickly and
20. left. If he comes to the Desk again later, I'll tell him this and show him what's
21. relevant. Thanks.
22. RSM-15: No problem.

Example 2. Consultation-oriented Storytelling (Reconstructed on the basis of my observation of and participation in the reference service at the SLS Library)

APPENDIX C

1. *[A library user comes to the Reference Desk where RSM-16 and RSM-17 sit at the two front corners.]*
2. *[A library user comes to the Reference Desk where RSM-16 and RSM-17 sit at the two front corners.]*
3. RSM-16: Hi, can I help you?
4. User: I'm doing an assignment about a writer called Clifford Odets. He's a playwright.
5. I have to find information about his works and commentaries from his critics. How
6. should I go about doing that?
7. RSM-16: Are you working on a particular play of his?
8. User: Not really. Any play written by him is okay.
9. RSM-16: Let me check the online catalogue and see if we have any books about him and
10. his works.
11. *[RSM-16 turns the computer monitor towards the user and searches the online catalogue.*
12. *The library user is waiting. RSM-17 is curiously watching and listening to how the*
13. *reference transaction unfolds.]*
14. RSM-16: We have several books about Clifford Odets. They're scattered in the PN, PR,
15. and PS sections of the circulation collection. I can print out this page for you and
16. you'll know where to track down the books.
17. User: Great! Thanks.
18. RSM-16: It seems Odets is a well-known playwright in modern time. I think there might
19. be journal articles written about his works. Once you've picked a play for your
20. assignment, try [name of a database] and see if there're any articles written about
21. that play.
22. User: Okay.
23. *[RSM-17 stands up and moves towards RSM-16.]*
24. RSM-17: Can I add something? Maybe you can try [name of another database]. It's a
25. full-text database for English literature. It has a section about the criticisms of a
26. writer's works. You can also find some reference resources from the database.
27. RSM-16: Ah ... Let me pull up that database.
28. *[RSM-16 logs into that database and shows its different sections to the user.]*
29. User: Terrific! Thanks a lot.
30. RSM-16: You're welcome. Thanks, [name of RSM-17]. I should take a closer look at this
31. database.
32. RSM-17: Yeah, the database is pretty handy.

Example 3. Sharing Knowledge by Means of Interruption (Reconstructed on the basis of my observation of and participation in the reference service at the SLS Library)

APPENDIX D

1. *[Three library users come to the Reference Desk where both RSM-20 and RSM-21 are available for help.]*
2. *[Three library users come to the Reference Desk where both RSM-20 and RSM-21 are available for help.]*
3. RSM-20: Hello. Can I help you?
4. User 1: We're working together on a group project, but we don't know how we can get
5. the information we need.
6. RSM-20: What's the topic of your project?
7. *[Curious, RSM-21 is looking at and listening to the users.]*
8. User 1: We're studying how new immigrants to Canada adjust to and settle down in the
9. new environment. We want to know how many immigrants moved to Canada in
10. each of the past five years. Also, we want to find out what problems they faced,
11. what social services they needed, and how their needs might impact the immigration
12. policies.
13. User 2: We also want to interview some new immigrants in the city. They could help us
14. understand their problems.
15. RSM-20: Well, sounds like it's a big project. You can use different resources for each of
16. the questions you mentioned. Have you done any research so far?
17. User 2: Not yet. We're just starting.
18. RSM-20: I suggest you start with [name of a database]. It's good for Canadian news and
19. statistics. Let me pull it up ...
20. RSM-21: *[turning to RSM-20]* I can try [name of another database]. It may have journal
21. articles on this topic.
22. *[Both RSM-20 and RSM-21 search the databases. The three users are waiting eagerly.]*
23. RSM-21: I've got some articles about immigration, but most of them are about
24. immigration to the U.S. or the immigration tide at the beginning of the 20th century.
25. *[RSM-21 turns the computer monitor to the students so that they can look over the search*
26. *results.]*
27. RSM-20: There're articles about immigration to Canada from [name of the database], but
28. most of them are short news stories. You don't find a lot of statistics from them.
29. *[RSM-20 turns the computer monitor to the students so that they can look over the search*
30. *results.]*
31. RSM-21: Maybe you could use broader, truncated search terms and limit the search to
32. journal articles with the advanced search function.
33. RSM-20: Okay. Let me try again.
34. *[RSM-20 searches the database in the way suggested by RSM-21. Then, she goes over the*
35. *search results with the users.]*
36. RSM-20: These articles look pretty good. I think they'll be useful to you.
37. User 1: Terrific.
38. RSM-20: For statistics, you can try [name of a database]. Other than that, ... *[turning to*
39. *RSM-21]* Do you have any suggestions for the statistics part?
40. RSM-21: Try the web sites of [names of two government departments]. They must've
41. done some studies on the immigration issue. Let me pull them up from the web.
42. *[RSM-21 surfs to the web site of the first government department.]*
43. RSM-21: Voilà. There's a section of their research publications. Let me see ... *[turning*
44. *to RSM-20]* Do you know how to search their research publications?
45. RSM-20: No, I don't. Do they have some kind of grouping or classification of their

46. publications?
47. RSM-21: They should ... *[turning to the library users]* We have to figure out how to get
48. the department's publications about immigration. Just give us a sec.
49. User 2: Sure. We can wait.
50. *[The two RSMs discuss how to retrieve relevant research publications from the web site.*
51. *They experiment with different methods and soon pull up some useful documents. Then,*
52. *they turn to the library users and give them a search demonstration.]*
53. RSM-21: Okay, that's how to get those documents from this web site. Now let me go to
54. the web site of the other government department ...
55. User 1: The documents you showed us are great. I think they should be enough for our
56. project.
57. User 2: Do you have any suggestion on interviewing new immigrants? How should we
58. go about doing that?
59. RSM-21: You could ask [name of a society]. They organize cultural activities for different
60. ethnic groups.
61. RSM-20: Contact [names of two organizations]. They specialize in services for new
62. immigrants. I think they might be able to find some interviewees for you.
63. RSM-21: That's right! They're exactly the type of agency you want to talk to.
64. User 2: Do you have their telephone numbers or e-mail addresses?
65. RSM-20: No, I don't have them on hand. But I can look them up for you. *[turning to*
66. *RSM-21]* I'll look up the information about [name of the first organization]. You
67. look up the other one, okay?
68. RSM-21: Sure.
69. *[The two RSMs search the Internet for the contact information of the two organizations.*
70. *Then, they write down the information and hand it to the users.]*
71. RSM-20: There you go.
72. Users: Thanks very much!
73. RSM-20: No problem.

Example 4. Collaboration (Reconstructed on the basis of my observation of and participation in the reference service at the SLS Library. This example is a simplified version of what actually happens when two or more RSMs collaborate. A real-life example is usually much longer.)

APPENDIX E

1. *[Message 1]*
2. [date]
3. Periodical — [name of a magazine and its call number]
4. Catalogue shows 4 issues available — no spot on periodical shelves. Can someone
5. check with serials to see if this been discarded?
6. *[not signed]*
- 7.
8. Missing
9. *[not signed]*
- 10.
- 11.
12. *[Message 2]*
13. [date]
14. Beet membrane permeability — They're BACK!
15. Students are looking for an article to support their lab —
16. [name of a database] works —
17. permeab% (in plant% or ABs)
18. membrane%
19. *[not signed]*
- 20.
- 21.
22. *[Message 3]*
23. [date]
24. A student was looking at course notes in [name of a course management program], but they
25. only came up as a powerpoint presentation. (No option to print.) It had been giving her the
26. option to print on her home computer. Another student said the same thing had happened to
27. her. She accessed the notes by closing the browser and logging in again. I also suggested
28. that if it still didn't work, she try a different browser. OR: right click to get option to save to
29. desktop OR: look in Library Help Desk / How to print PowerPoint 6 slides per page.
30. [RSM-28 signed]
- 31.
32. Another way is to do a right-click on the link to the powerpoint presentation, and select "save
33. link as." Save it to a floppy or desktop or wherever, then go and open it. It should then open
34. with powerpoint and give you the file 2 print options.
35. [RSM-29 signed]

Example 5. Messages on the Notebook at the Reference Desk (Copied verbatim from the notebook)

APPENDIX F1. ***[E-mail 1]***

2. Hello

3.

4. [name of a database] was re-imaged on the library computers last night. The computers in the
 5. classroom and the computers in the library now have [name of a database] 2002. (The data is
 6. actually to 2000).

7.

8. To get to it go to:

9. Start

10. Programs

11. [name of the database]

12. The balance sheet goes to the [name of a Canadian province] level.

13.

14. [name of the database] will allow you to search for an industry by NAICS. (6 digits) To
 15. search for an industry click on the NAICS code and click “search”. If a match is found, the
 16. industry will appear.

17. [name of the database]_2000 All (4 digits)

18. [name of the database]_2001 (6 digits)

19.

20. [RSM-30 signed]

21.

22.

23. ***[E-mail 2]***

24. Hello

25.

26. The pamphlets have been weeded and are now in Tech Services. The remaining pamphlets
 27. will be changed to main collection and will become 3 week loans. They will also be put into
 28. a better format for shelving. In the mean time, if you have a student who requires a pamphlet
 29. take the request to Circulation and they will treat it as a rush item and obtain it from Tech
 30. Services.

31.

32. Thank you.

33.

34. [RSM-31 signed]

35.

36.

37. ***[E-mail 3]***

38. Greetings all!

39.

40. I barely contained my excitement when I found the journal [name of a journal] - on the
 41. [name of a database vendor] database [name of a database] - full text from 1936 on.

42.

43. I didn't contain my excitement (I ran down the hall to tell [names of two RSMs]) when I
 44. discovered on the same database the journal [name of a journal] available in full text from
 45. 1930 on.

- 46.
47. Now I'm just so excited I had to let everyone know - the journal [name of a journal] is
48. available full text on this same database from 1916 on !!!
- 49.
50. These are very fun to browse through - lots of interesting stuff from a long time ago.
- 51.
52. Cheers,
- 53.
54. [RSM-32 signed]

Example 6. Electronic Mail Messages (Copied verbatim from the RSMs' group e-mails)

APPENDIX G

1. [name of a free Internet resource] - *another index to online journals with direct links to full*
2. *text articles. **Seems better for Arts/Humanities than Sciences***
3. [name of another free Internet resource] - *another index to online journals with direct links to*
4. *full text articles. **Seems very strong in Business and Computing journals***

Example 7. Annotations from the Library's Web Page, "Find an Article" (Copied verbatim from the web page; italics original, boldface added)