Communities of Practice in Workplaces:

Learning as a Naturally Occurring Event

Noriko Hara
School of Library and Information Science
Library 011
10th St. and Jordan Ave.
Indiana University
Bloomington, IN 47405-3907
E-mail: nhara@indiana.edu

Thomas M. Schwen
Department of Instructional Systems Technology
Room 2276 School of Education
Indiana University
Bloomington, IN 47405
E-mail: schwen@indiana.edu

Heading: CoP in Workplaces

Abstract

Since the 1990s we have seen an increase in consideration of social and cultural aspects of learning as a way to foster organizational learning and human performance. Despite strong interest among practitioners and scholars, the study of organizational learning is lacking in empirical research. The study described here calls attention to the importance of informal learning in designing effective learning environments for the training of professionals. The study examines how people share and construct their knowledge in a Public Defender's Office and conclude that there are six attributes of communities of practice (CoPs) that serve as scaffolding for organizational learning. The attributes are: (1) a group of professionals; (2) development of a shared meaning; (3) informal network; (4) supportive culture–trust; (5) engagement in knowledge building; and (6) individuals' negotiation and development of professional identities. Implications for education and training in relation to the concept of CoPs are discussed.

Introduction

The recent paradigm shift from a behavioral to a constructivist approach in education (Dills & Romiszowski, 1997; Ertmer & Newby, 1993) highlights problems with "traditional" approaches to knowledge distribution, such as the issue of inert knowledge[1] (Bereiter & Scardamalia, 1985) created during classroom training. Consequently, the meaning of the terms "knowledge", "learning", and "performance" are being reconsidered (Schwen, Kalman, Hara, & Kisling, 1998). At the same time, the

focus of learning interventions at the individual level has been shifting toward group and

organizational learning (Brown, Collins, and Duguid, 1988; Easterby-Smith, 1997).

Hence, it is necessary to consider social and cultural aspects of learning (Brown &

Duguid, 1996, 2000; Lave, 1988; Lave & Wenger, 1991; Resnick, Levine, & Teasley,

1991; Vygotsky, 1978) in addition to cognitive aspects (Anderson, 1983; Chandler &

Sweller, 1991; Hara, Bonk, & Angeli, 2000). This article attempts to fill in the gap, or

lack of transfer between learning and performance, given a new understanding of

knowledge, and also discusses the possibilities offered by information technology (IT)

interventions.

The purpose of this paper is to examine how people share and construct

knowledge in an organization. The study described here sought to discover how ideas are

generated, how critical information is disseminated, and how cooperative action arises

within an organization. As Brown and Duguid (1996) assert, significant learning and

innovation arise throughout informal "communities of practice (CoPs)" where people

work. We seek here to describe social construction of knowledge in professional CoPs

with a focus on one particular case involving a community of public defenders. In this

paper, we define our concept of knowledge and CoPs, describe research methods, and

finally present an ethnographic case study with results and interpretations. Based on the

case study, we identify characteristics of CoPs, which could be transferable to other

CoPs. Finally, we conclude the paper by describing implications to the fields of

education and human performance technology (HTP).

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[1] Inert knowledge refers to a kind of knowledge that is not utilized by students because they tend not to

Knowledge

Many scholars distinguish between knowledge as object (the objectivist paradigm) and knowledge as process (the constructivist paradigm). We concur with Blackler (1995), Lave (1988), and Orlikowski (2002) who propose that knowledge be analyzed as an active process (knowing). This article takes the same position and adopts a social constructivist paradigm. In this paradigm, knowledge (knowing) is viewed as both an individual and a social process because knowledge is constructed individually and collectively. Lave (1988) and Montovani (1996) also criticize cognitive scientists' interpretation of discontinuities of knowledge and the separation between experimental and everyday situations. In this article, we use the following definition: "knowledge as a process of gaining situated understanding that a person or a group of people has acquired through experience in social contexts" (Hara, 2000, p. 8). This type of knowledge includes know-how, which is directly related to competitiveness and productivity of an organization for the most of the time although it may be transient and incomplete.

Communities of practice

The term "communities of practice (CoPs)" was coined by Lave and Wenger (1991), although ethnographers have a long tradition of studying occupational communities (Orr, 1990; Van Maanen & Barley, 1984). Brown and Duguid (1996) popularized the term, which was derived from Orr's ethnographic study at Xerox (see Orr, 1990; 1996). CoPs subsequently became well known in the corporate world through business publications (e.g., Krackhardt & Hanson, 1993; Ruhleder, Jordan, & Elmes,

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transfer the knowledge into real-world practices.

1996; Stewart, 1996; Wenger, McDermott, & Snyder, 2002). The following is an

original definition by Lave and Wenger (1991):

> A community of practice is a set of relations among persons, activity, and world, over time and in relation with other tangential and overlapping communities of practice. A community of practice is an intrinsic condition for the existence of knowledge, not least because it provides the interpretive support necessary for making sense of its heritage. Thus, participation in the cultural practice in which any knowledge exists is an epistemological principle of learning. The social structure of this practice, its power relations, and its condition for legitimacy define possibilities for learning (i.e., legitimate peripheral participation). (p. 98).

Various authors define CoPs in a similar fashion, but add their own interpretations, such

as Sharp (1997), Manville, Director of Knowledge Management at McKinsey & Co.

(cited in Stewart, 1996). Recently, Wenger (1998) argued that there are four traits that

characterize CoPs as a "social fabric" of learning: negotiating meaning, preserving and

creating knowledge, spreading information, and being a home for identities.

It appears that there is little solid agreement on the definition of CoPs. This

ambiguity in the definition of CoP could lead to divergence of the concept. For example,

Stewart (1996) claims that CoPs "are typically small groups of specialists that learn

together." On the other hand, it may be possible to form larger CoPs, especially online,

although the ties among the members of a larger community could be weaker than the

ones in a smaller community.

We use the following definition in this paper so as to overcome the confusion in

this area of research: "communities of practice are informal [social] networks that support

professional practitioners to develop a shared meaning and engage in knowledge building

among the members" (Hara, 2000, p. 11).

The discussion about CoPs has a short history, although "communities of practice have been around for a very long time" (Wenger, 1998, p. 228). In the current literature (e.g., Wenger & Snyder, 2000) the phrase CoPs is used differently from the way Lave and Wenger (1991) originally introduced it. Indeed, they did not focus on CoPs in their original piece, but instead on apprenticeship. Hence, their focus is on newcomers to the CoPs.

As opposed to the original definition by Lave and Wenger, the definition proposed here focuses on building knowledge in a CoP. This position is similar to the work by Orr (1990; 1996) and Brown and Duguid (1996) in terms of examining what is happening in workplaces. Comparison of canonical (officially defined) and non-canonical work (Brown & Duguid, 1996) indicates the importance of informal learning. In the definition used in this paper, a CoP is the scaffolding that provides support to the social construction of knowledge. In CoPs, workers are part of a social network and socially shared cognition, and these two elements are not static, but fluid in the process of building shared knowledge.

Brown and Duguid (1996) criticize the paradigm that dominates current training programs because training in classrooms separates the act of learning from the act of working. They introduce the concept of "learning-in-working" and perceive learning as the bridge between working and innovating. Orr's ethnographic study (1996) indicates that work practices are different from what organizations describe officially. To illustrate this argument, Scott (1998) uses the example of the "work-to-rule" strike, a method of striking used by organized labor in France. Under the work-to-rule strike, workers perform their work following their job descriptions exactly, resulting in dysfunctional

work places. This behavior highlights how, in reality, most jobs are quite different from their official descriptions. A lack of consideration for tacit knowledge and real-world job duties causes a gap between the training programs provided by organizations and what the employees need to improve their job performance.

The particular group of technicians that Orr (1990) studied works in a culture that encourages mutual support. For instance, they have a place to "hang out" for lunch, and if one of them has a problem, she can always go there and ask for help. Because this group of people repairs many of the same types of machines, they need to share information as well as their problems. "There appears to be every incentive to share information and virtually none to keep it private 'because' there is no way to solve a difficult problem and have it known without telling the story" (p. 174). In order to tell stories, the technicians have to know the language (e.g., technical terms). They learn to tell stories by listening to other technicians' stories. Once they learn how to tell stories, they become full members of the CoP. The technicians tell stories for three reasons: practically, they share information in order to work efficiently; it is easier to remember the war stories told by other technicians because the stories are situated within the context; and finally, they want to flaunt their prowess and make their stories interesting. Orr (1990) concludes that "their [technicians'] community memory is about being a technician, and it helps them to be technicians." (p. 187). The place to share and build community memory is in a CoP.

Of course, we should not consider only positive reactions to CoPs. Henriksson (2000) criticizes overwhelming enthusiasm towards the concept of CoPs. She claims that the concept may not represent organizational reality and suggests that we keep the

concept in alignment with organizational cultural research (e.g., Yanow, 2000).

Huysman (2002) also discusses an example of how a CoP among IT professionals

demonstrated negative impacts on the organization.   However, we believe that the

concept is still useful for articulating collective knowledge creation within organizations.

In the discussion section of this article, we compare Henriksson's position with others

and ours. The following section discusses the characteristics of CoPs.

Defining Communities of Practice

The definition of communities of practice used in this paper includes the

following five attributes: (1) a group of professional practitioners, (2) development of

shared meaning, (3) informal social networks, (4) a supportive culture, i.e., trust, and (5)

engagement in knowledge building. Each attribute is described in detail below.

A group of professional practitioners

As found in Orr (1990; 1996), professionals prefer autonomy. No one can force

people in CoPs to learn together or to share information (Stamp, 1997; Stewart, 1996).

Technicians do not stop being technicians when they are not working with machines.

The other studies related to the concept of CoPs describe groups of professional

practitioners who learn autonomously, i.e., technicians (Orr, 1990; 1996), customer

representatives (Orlikowski, 1995), practitioners of Production Inventory Control (Swan,

1994), reference service users (Davenport, 2001), and workers in a pharmaceuticals

company (Hayes & Walsham, 2001).

Development of a shared meaning

      "As people work together, they not only learn from doing, they develop a shared

sense of what has to happen to get the job done." (Stamp, 1997). The information

exchanged in CoPs is communicated between members. This core of social processes

allows people to develop shared meanings (Montovani, 1996). Since all CoPs are local

(Wenger, 1998), these shared meanings are situated. While Manville states that

"knowledge transfer will be much smoother between workers who speak a common

language" (cited in Stamp, 1997), a common language does not only indicate explicit

knowledge (e.g., meaning of words), but also includes tacit knowledge (e.g., metaphors

and values).

Informal social networks

      Stewart (1996) asserts that CoPs cannot be created or implemented. CoPs are

hard to find because they have patterns that are not reflected in organizational charts.

That is why Stephenson (1990) calls them "virtual groups". Wenger (1996) asserts "there

is no distinction between learning and social participation." He emphasizes the

importance of participating in a CoP in order to improve practice through learning.

      Another example of how people help each other informally is described in

Leitzman's (1981) study. Some faculty members in this study considered the term "help"

too official for these supporting activities, but instead described what they were doing as

a "sharing of common experiences" (p. 4.36). This phenomenon of telling a story from

their experience resembles the technicians' community in Orr's study (Orr, 1990).

Interestingly, Leitzman assumed that this informality might protect a faculty's "teaching

reputation in a competitive climate" (p. 4.37) because if a faculty member had officially

asked for help, other members might have thought that he or she was not competent to teach.

Supportive culture—Trust

CoPs develop supportive culture. More importantly, members come to trust each other. For example, in Orlikowski's (1995) study, the culture of the department of customer representatives supported the development of a CoP. For example, a specialist in the department commented that attention is not paid to who gets credit for what information. Instead, the information is shared to support each other's work. The community established the notion of working as a team although they were not officially in a team. As an example, a specialist sometimes would see someone else having too many phone calls and offer to help, or if she saw someone having a problem similar to one that she had had previously, she gave suggestions. Such behavior suggests that the culture of this department was cooperative.

Engagement in knowledge building

People in CoPs engage in knowledge-building through learning, not for the organization, but for themselves. In other words, they are autonomous learners. As indicated by Orr (1990), they develop community memory through telling stories or using metaphors (Nonaka, 1994; Ortony, 1979). The database used by customer representatives in Orlikowski's study (1995) is an instance of using an artifact for the knowledge-building process. CoPs become vehicles for building knowledge among their members.

"[M]uch of what has been written about networks at work has been concerned, in part, with community" (Kling, 1996, p. 426), although traditionally managers have not

paid attention to communities for professionals because they are usually based on informal social networks. Kling (1996) claims that "communities that are based on people caring about and taking responsibility for the well-being of their members are harder to build." (p.434). This caution is consistent with those made by others such as Stewart (1996) or Stamp (1997) who further asserts that "while it's generally agreed that CoPs cannot be commanded by management dictum or jump-started by technology, it is very easy to destroy them by meddling—even when the meddling is a well-intentioned effort to nurture them." As Huysman (2003) argues, management could harm the mechanisms of managing knowledge.

Research Methods

A qualitative case study approach was chosen for this study as an appropriate method for investigating interrelated factors that influence organizational learning in a professional CoP. The study examines unique cases of a CoP in an organization. The purpose of the study is to give a "thick description" (Geertz, 1973) of a naturalistic environment. The method of inquiry is an instrumental case study (Stake, 1995) based on a need for general understanding of the social construction of knowledge in a CoP.

The selection of the research site was based on certain criteria described below (LeCompte & Preissle, 1993). In fact, the first author, who conducted the fieldwork, chose the research site based on the five attributes that were derived from the definition of a CoP : (1) a group of practitioners; (2) the development of a shared meaning; (3) informal social networks; (4) supportive culture—trust; and (5) engagement in

knowledge building. Through initial observations and interviews, she identified a CoP at the Public Defender's Office in Square County[2].

Observations. The first author conducted observations in the Public Defender's Office in Square County between October 1998 and March 1999. The fieldwork included observing the daily work practices of public defenders, shadowing particular attorneys, sitting in on two jury trials, visiting the local jail four times, and attending various social gatherings, such as parties, where public defenders were in attendance. She asked two of the attorneys to allow her to shadow them during their workdays. Also, she chose to observe the two jury trials because trials are one of the major events where attorneys strongly support each other. In addition to these planned observations, there were times when an attorney asked her to follow him, to go visit the jail with him, and go to a party. Since this study used an emergent design (Schwandt, 1997), she decided that it was usually appropriate to observe these informal occasions. The informal observations outside the office gave us an insight into the culture of the office and the relationships among the attorneys.

During the first three weeks of observing this office, the first author was a rather passive participant observer. However, after two weeks, she asked the manager of the office, Paul Linton,[3] if she could assist with some of the office's work because all of the employees, including the secretaries, seemed very busy. The thought behind this was that if she could participate in some work practices, she could learn more about the nature of

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[2] The name of the county is a pseudonym.

[3] All the informants' names are pseudonyms.

the work. Therefore, her role became that of a participant-observer after Mr. Linton

allowed her do some office work.

Interviews. Interviews related to learning experiences in this community were

conducted individually during office hours. They were conducted twice with seven

attorneys at the beginning and end of the fieldwork, once with an investigator in the

Public Defender's Office, and finally with a prosecutor at the end of the fieldwork. Each

interview lasted between a half hour and an hour. All interviews were semi-structured,

which allowed for additional questions beyond the scripted interview items. The first

interviews were conducted for the purpose of identifying an appropriate research site,

based on the criteria we stated earlier. Therefore, the questions were rather general

compared to the second interviews. The questions employed during the second

interviews concerned more specific incidences that occurred during the observation. All

the interviews were tape recorded and transcribed. In addition to the semi-structured

interviews, the first author had informal conversations with the same attorneys, a work-

study student, an intern, and secretaries, as well as judges, prosecutors, and clients

throughout the course of the fieldwork.

Document review. Various documents, such as newsletters and a Web site

provided by the state Public Defender Council, which offers services related to public

defenders' professional development, were reviewed. An informant from the Public

Defender Council provided us with a report detailing perceived public defender

competence and a document called *outline of the condensed index of attorneys' improper*

behaviors. The first author obtained a judge's final jury instructions during her

observation of a trial.

Research Site: Square County Public Defender's Office

Before introducing the more elaborate concept of CoPs, it is useful to understand an ethnographic case study. The research site, Square County Public Defender's Office, is a small organization that employs seven full-time attorneys, one investigator, and three secretaries. There is one manager who is in charge of the office. Due to budget constraints, they do not have strong IT infrastructure, e.g., lack of access to the Internet . Despite the job's low status (in comparison to prosecutors and judges) and lack of external incentives (e.g., monetary compensation), the public defenders in this office are motivated to learn from each other and become better defense attorneys. Being a public defender is not an easy job. However, the negative factors related to being public defenders (see below) lead them to band together and make their ties stronger because they cannot afford not to help each other.

Our interviews and observations revealed that the culture of the office encourages opportunities to learn and fosters willingness to share information among attorneys. This office has relative advantages over other public defender offices. For instance, they employ seven full-time public defenders whereas many other counties only have contract attorneys. The attorneys in this office expressed the importance of having colleagues with which to share ideas. Jason, an attorney, explained that this office was like a family; they watch out for each other. Despite their highly individualized work style, they help and give each other support. The office atmosphere is very supportive, and they are willing to ask questions and help each other.

Understanding a Community of Practice among Public Defenders

As we began this research, we used the definition: "communities of practice as informal social networks that support a group of practitioners to develop a shared meaning and engage in knowledge building among the members." Based on this definition, we described five attributes of CoPs earlier in this article: (1) a group of professional practitioners; (2) the development of a shared meaning, (3) informal social networks, (4) supportive culture—trust; and (5) engagement in knowledge building. Below, we detail how the Square County Public Defender Office fulfilled these criteria.

A group of professional practitioners

Practice is a basis of a CoP because a CoP emerges around a particular field of profession. Sally, the most recent public defender to join this office, expressed that she respects the knowledge of the other attorneys. She was proud of the depth of knowledge in this office.

> It's a very knowledgeable office. We've got attorneys in here that just have so much knowledge, so that even though our clients would say, "I don't have an attorney, I have a public defender," in reality, I think there probably isn't more legal knowledge anywhere in the State than in this office. We are just an amazing group of people (personal communication).

In addition to acknowledging the expertise of the attorneys, her comments also indicate that they do not get much credit for their work. Their clients constantly see them as "non-attorneys" because they don't have to pay for their services. The attitude of their clients seems to be one of the reasons they need to help and support each other.

Development of a shared meaning

Being a public defender is not an easy job. Despite the importance of their work, public defenders are not as respected in society as they should be according to the

informants. That is why the Public Defender's Office is "not a popular source to give

money to" (Paul Linton, personal communication). The office was consistently

struggling to obtain better funding, but had not been successful. The rest of the

government offices consider the public defender's office as "a stepchild" (personal

communication) who does dirty jobs. For example, the condition of the outdated

computers in the office is an indicator of its low status, relevant to, for example,

prosecutor's office.

> Sally expressed one of the main difficulties of the job, working with clients:

> It's a hard area to work in . . . because of all the obvious reasons. You know, our
> clients are in jail and they are facing prison time. Sometimes they come smelling
> like alcohol and you know they keep coming back, and coming back for all the
> obvious reasons. You are their mother, their counselor, their confessor, and their
> attorney, and their therapist too. You're everything. And sometimes you don't
> want to be (personal communication, March 10, 1999).

Jason, another attorney, confirmed Sally's statement that dealing with troublesome clients

is a major tension in this job:

> . . . it [the public perception of public defenders] just makes it harder when you
> deal with some of these people, [changed his voice] "Oh, I've gotta public
> pretender, oh, God, these people suck, you know, I've heard all kinds of bad
> things about them." So, they come in with that attitude to begin with. It's kind of
> tough on a client-attorney privilege situation where you're trying to get
> information from them to help them, and they think all you are doing is
> scrutinizing when you ask them simple questions like, "Have you ever been
> convicted before?" [changed his voice, again] "What's it to you?" "Well,
> something that's kind of important. I need to know for future reference." I am
> dealing with these people and I don't want to be the only one in the dark. Anyway,
> that happens and again, that's a public perception (personal communication).

> Another difficulty is that they must live with the perception that public defenders

are not as good as private attorneys because they are obligated to defend the indigent. As

Jason mentioned, clients meet with public defenders with an attitude that public

defenders are not as competent as private attorneys.

Bob, the investigator in this office, said, "Because of the stigma of the title of the

public defenders, they [the clients] don't think they [the public defenders] are attorneys . .

. it is very frustrating. It's one of the most difficult things that I think we have to deal

with" (personal communication). Sally affirmed that "I just think there is a lot of stress

on the job. No question about it" (personal communication). On the other hand, we

believe that these negative factors of being public defenders, in fact, are contributing

reasons that they formed a CoP among themselves to support its members. By sharing

knowledge and learning from each other, the members of a CoP construct a shared

meaning. Among themselves, they develop a shared meaning of what it is like to be a

public defender.

Informal social networks

Tom gave an example of sharing practical knowledge with colleagues. He was

asked whether he shared information with his colleagues, such as his observation that a

certain judge would consistently act in a particular way for a specific kind of case. He

explained what would happen in daily life regarding the exchange of such information:

> They probably know already, my colleagues I mean. We have a pretty
> experienced group here, so. But, what I might do is, if I have a hearing first thing
> in the morning, in front of the judge, and the judge is in a bad mood. What I'll do
> is, come in and I kind of make a comment if I see another lawyer leaving the
> office, I say, "Are you going to Gibson's court?" "Yes." "Be careful. Gibson is
> in a bad mood." We do that kind of thing. But there is no formal way. I mean I
> don't post a notice in the office and say, "Be aware all lawyers. Gibson is in a bad
> mood today." [It happens] if I see the lawyers because not everybody has the
> same schedule, so. But we share things that way, and we share things, "Oh my
> god. Be careful. The prosecutor in Gibson's court is, oh boy, today is a bargain
> city. She is giving away everything today. So, you know, take your cases down

> and get a good plea bargain." We share that frequently. Every time we come back from court, we let other lawyers know that court's running behind or the court's on time, all that stuff.

Hence, the attorneys talk to and give some tips to each other informally to exchange "practical knowledge" about judges and prosecutors. Tom further clarified his previous statement:

> Actually if they [other attorneys] are getting up and got files in their hands and walking toward the door, then we know they are going somewhere. So, they might need that, but if they are sitting in their offices, doing work, maybe they don't care about court's time because they're not going to go to the court today. So, I don't want to bother them saying, "Oh, by the way, the judge Cox's on time today." "Well, big deal. I don't have any cases with Judge Cox." No, we don't go on a systematic basis and go each lawyer and say, you know.
> I: So, just when you see them going to court?
> T: Yes. Or see them on a hallway or see them coming to court, or leaving court or something like that. Or, if we are in a court and they come in, they come up to us and say, "What's happening in here?" (personal communication).

Tom's comments pointed out the importance of proximity. As mentioned earlier, the office is small, so the attorneys cannot help but see each other when one of them goes to court. Also, since all the courtrooms are located in the same building, they see each other in the hallways. In addition, their work is equally distributed in all courts. Consequently, they also see each other in the courts all the time. The physical environment provides opportunity to share their knowledge informally.

Supportive culture—trust

The attorneys in this office respect and also support each other. During trials the office provides a strong, supportive culture, but that is not the only time that the attorneys help each other. Sally recalled her experience when she came to this office as a new attorney:

S: When I was a new attorney coming out of law school, because I came right here from law school in 1991, there was more of that [getting feedback from colleagues], and it wasn't just Paul [the manager of the office]. It was everyone who said you need to do more trials, because I didn't do a trial for my first year, I would do anything not to do a trial. I would talk to my clients. And they [the other attorneys] were right. I did need to do more trials and then I started to do more trials. Once you get comfortable with that, you are over a big accomplishment. So, as a young attorney, I got a lot more feedback than I do now. We don't really criticize each other. But again, that's because we are all experienced attorneys now. There isn't that need for close supervision.
I: But would they do that for somebody new to this office?
S: They would, yes. Because what one of us does reflects on everybody else (personal communication).

In the above comments, Sally expressed her fear of going to trial when she started to practice as a new attorney in this office. Her comments further indicate that she had received scaffolding from her colleagues when she started. The other attorneys in the office helped her see what was expected in the role of a public defender, including the importance of going to trial. Also, she made an important point that an attorney's performance reflects on the reputation of the Public Defender's Office. Nick confirmed Sally's reflection when I asked him what happened when somebody came to this office right out of law school:

We'll all help them. Sally came in here like that. This was the first job she had [as an attorney]. We all watched and commented, and she didn't do the hard cases at first. She turned out real good, I think. Anytime someone comes to us with questions, we answer it, try to help (personal communication).

This process of learning how to cope with fear is also found in Becker's study on marijuana users (1960). Becker illustrates how experienced marijuana users teach novices how to redefine the frightening experience as pleasure. An experienced marijuana user "teaches the new user that he can 'get to like it after awhile'" (p. 55) and tells stories about his own experience of being a novice user. Sally went through a

similar process as a new attorney to conquer her fear of going to trial, and other

experienced attorneys advised her on how to overcome the fear.

The mutual support described above is based on one of the unique attributes of the

office, that it has full-time public defenders, whereas most of the counties in the state do

not. Alisha described her past experience as a contract attorney for a different county

where she did not have opportunities to learn from and to share legal knowledge with

other attorneys as much as she does in this office:

> I: I've heard that this office is unique in terms of having full-time public
> defenders whereas other counties have only contractors.
> A: That's what I first did when I got out of law school. I was in a private practice
> and contracted for Triangle County, which is about 30 minutes away. But that
> was *strange* because there was no office to go back and talk to about those cases.
> I was on my own. Looking back, I wonder how good an attorney I was, just right
> out of law school, because I took major cases as a contract attorney and I didn't
> know anything . . . . I'm glad I'm here now. (personal communication).

Alisha talked about her past experiences of being on her own and expressed how valuable

it is to have an office where attorneys who have similar experiences talk to each other,

and share their ideas.

Helping each other happens naturally in this office, as illustrated by Sally's

experience being a new attorney. Moreover, it was observed that there were many social

events centered on non-work events, such as birthday celebrations for the attorneys.

Jason commented that this office is like a "family": [In this office, it's] kind of like

having a lot of brothers and sisters around you, and they tell you, "What's going on, can I

help you out?" (personal communication). If a group of people operates like a family,

there is less consideration for individual benefit than for the group as a whole—they look

out for each other.

Engagement in knowledge building

Every attorney in the office expressed how beneficial it was to have someone who is knowledgeable about and has experience in the legal profession. Individuals in a CoP have to be motivated to learn and work in order to improve their practices. Within a CoP, the members engage in knowledge sharing and collectively build their knowledge base. For example, Richard described instances of how he contributed to other attorneys' cases as well as how other attorneys helped him when he was preparing for a trial. When he was asked whether he exchanged information with his colleagues, Richard affirmed:

> I think we do that all the time. When I come across a good case, I copy it and give it to my colleagues or, just as I said, when I have a particular problem that I don't have an answer to, I talk to other attorneys, about the trials. When I have a question about strategy, I sit down and talk to other attorneys. We also have an investigator here. He helps us and I sit down and talk to him all the time about the strategy, etc. That's very very important. So, we do that on a regular basis.

Richard underscored the significance of exchanging information and discussing strategy with other attorneys in the office. He indicated two ways of sharing knowledge. One is to make copies of a useful case, the other is to be asked questions. When asked to elaborate on his experiences in the latter situation of talking with other attorneys, he explained in detail. The process of working with other attorneys is rather informal. For example, Richard brings up a case that he is working on and asks his colleagues how it looks to them. They might suggest talking to witnesses or further examining a police report to indicate the problems involved.

Even though Richard had been practicing law for about 25 years, he still considered it valuable to discuss his cases with colleagues. He described the interactions with his colleagues as "partnership." Although the attorneys do not work on the same cases together, the term "partnership" implied that they seemed to have a sense of sharing

cases together. He compared his experience of being in private practice and underscored

the importance of having colleagues who can talk about cases with him because he did

not have this kind of partnership there.

Jason was asked if this partnership happened often. He replied:

> Yeah, I think here it's pretty good because most everybody gets along, is willing,
> and able to share with other people, updates in a law or any other issues come up.
> We get along pretty well (personal communication).

This knowledge sharing is encouraged by the culture of the office. All the attorneys are

supportive of each other.

Because their experience seems to be very individualized, we were curious how

this individual knowledge could become collective. In that regard, Tom was asked

whether this office was improving collectively. He again confirmed: "Well, yeah, I think

so. In our ways, when people gain some level of expertise, it gets shared somehow." He

was asked to explain further how the process occurred, and Tom gave me Richard's

Bureau of Motor Vehicles (BMV) example:

> Well, for example, like Richard Wilson has a case where we're dealing with
> driver's license issues. And the notice that was required to be sent out by the
> Bureau of Motor Vehicles. So, all of a sudden, people start asking Richard
> questions about that. Nick is another one who's done research on that. We could
> ask him, too. You know, that sort of thing. I think once somebody does
> something or tries something or seeks me out. Alisha, for example, will read
> advance sheets and will tell somebody about our case or something like that. It
> would be nice if we had, Paul tried for a while to have staff meetings, like on
> every pay period, Fridays and stuff. . . . That would help kind of formalize some
> of the communication . . . Yeah, collectively, I definitely sense greater expertise
> in the office (personal communication).

Tom mentioned that Richard had shared the BMV case with other attorneys in the office

and that they would do similar sharing. In addition to confirming collective knowledge

improvement in the office, Tom suggested having regular meetings to formalize the

process. We speculate, however, that a formal meeting might not be the appropriate way to share certain types of knowledge, because if people are forced to share their knowledge, they may just do it for the sake of sharing (e.g., Barth, 2000). Also, certain types of knowledge, such as cultural knowledge, are difficult to share in formal settings. Richard agreed with Tom:

> I think there is an opportunity and perhaps a need for some formalized sharing of information. As you and I talked about in the past, trying to explain how to use the Lexis-Nexis [an online legal publication database]. That would be useful. I've practiced in 25 years and as far as I know, I've *never* had the opportunity to work with anybody to have kind of formalized a structure of sharing of information. It's not like LA law where each week they had a meeting and they would talk about current cases. That's one way of doing it. I have never been in any environment where it's done like that. It may have occurred. I think some people in some offices do that, have a meeting and talk about current cases.

Although formalizing the knowledge-sharing process was proposed by both Tom and Richard, Richard pointed out that he never had that kind of formal process while he was practicing law. In fact, the office used to have regular meetings, but they had quit having them. Richard's comments indicate that formalizing information sharing might not function well.

Individuals' negotiation and development of professional identities

It was found that professional identity was one of the important components of the community studied here. The groups' sense of professional identity makes a CoP strong. Tom confirmed that individual attorneys in the office are improving because "With every trial you do and every case you handle, you just get more and more experience and better." Nick indicated one of the reasons for collective efforts among the attorneys was to improve the office as a whole:

> Everybody watches us. I guess in one respect, you're working towards the standards of the office. You don't want to let any of the other attorneys in the office down. We want to do a good job. We all do a good job. We want people to think that pubic defenders do a good job (personal communication).

Each attorney is a representative of the office. That is why the public defenders all work closely together to improve the reputation of the Public Defender's Office.

This section illustrated how information exchange takes place in this Public Defender's Office during daily work. Richard, who had been practicing as a private attorney, expressed appreciation of having colleagues to talk to about cases. The attorneys help each other and collectively improve their practices. Furthermore, Nick's comment addressed one of the reasons for helping each other: each attorney's work reflected on the reputation of the office. We speculate also that their efforts to become better attorneys derive from their professional pride.

An outsider's view of the Public Defender Office was provided by a prosecutor working in Square County, who confirmed their collective improvement:

> I think to a large degree they improve collectively, because they pool their knowledge, not on an individual case, because they don't work together usually on their individual cases. But what they will do, it seems to me, because I notice one will do it, and then all of them will start to do it, is one person will try something new, or will find a new case that's advantageous to a defense position, or will go to a seminar and learn something about a trial technique of this, that, or the other. Or they'll try a trial technique and it will be effective and they'll kind of teach the other ones. So, I think they have improved collectively. And that's great, because if they improve collectively usually it improves the prosecutors collectively, because when they step up and learn how to do something we usually learn how to defend it. So we step up and then maybe we learn a new prosecution technique which they learned how to respond to and so we step each other up, repeatedly. So hopefully, if we're all motivated and we're all doing our jobs we're teaching each other at the same time, which is great (personal communication).

The prosecutor provided an example of the collective knowledge building among the public defenders by saying that when one attorney tried a new technique or was given a new case, the other attorneys would learn from that attorney. Her comments also address not only the collective efforts among the public defenders but also the influence on the prosecutors who work in the same courts. This indicates that CoPs can influence each other to become better practitioners and build professional identities.

In summary, the information we gathered in the case studies changed our understanding, and led us to add a sixth attribute: (6) individuals' negotiation and development of professional identities.

Discussion

A CoP provides an informal learning environment in which novices and experienced members of the community may interact with each other, share their experiences of being in a particular profession, and learn from each other. Therefore, organizational learning occurs in a CoP. Clearly, novices develop their professional skills through mentoring and apprenticeship to more experienced members. This is the concept of "legitimate peripheral participation" developed by Lave and Wenger (1991). By using this term, they explain that "learners inevitably participate in communities of practitioners and that mastery of knowledge and skill requires newcomers to move toward full participation in the sociocultural practices of a community" (p. 29).

However, CoPs are useful not only for novices but (also) for master practitioners. Learning is a continuing process in any kind of profession. Although Lave and Wenger (1991) do not discuss how learning occurs among full members of a community, even

experienced attorneys who have been practicing more than fifteen years can learn from younger attorneys, because conversation with the less experienced attorneys elicits the experienced attorneys' reflection on their own actions. A CoP is a place to bridge these two groups (novice and experienced) and to start a conversation within a particular profession. That was found to be the case for the experienced attorneys in the Public Defender's Office in Square County, as well as for the Xerox technicians studied by Orr (1990).

A problem with the concept of "legitimate peripheral participation" is that it is hard to draw a line between novices and experienced people. How do we determine when novices should become full participants? A public defender in Square County, Tom Ashton, mentioned that he never felt that he had reached a mastery level, though others perceived him as a well-experienced attorney. Perhaps this failure to recognize one's own personal mastery is an important factor in continued participation in a CoP. Once people perceive that they have reached a mastery level, they may opt to stop learning, and participating in their professional CoP. There are other possible factors that keep them in a CoP; for instance, they may seek emotional solidarity and have a desire to pass on experience to younger generations.

Implications for Education and Communities of Practice

In this study, informal learning activities were examined in a workgroup that is not officially regarded as a workgroup. The results of this study may be useful in different ways. First, researchers who study organizational learning and CoPs can benefit from this study's local theory. Wenger (1998) developed a broad theoretical framework

for CoPs that consists of practice and identity. We need to expand his framework and examine more details of individual CoPs.   Finally, this study provides a new view of learning for corporate trainers, who tend to focus more on formal training than informal learning.

As Brown and Duguid (1993) indicate, whether one can design or operationalize situated learning is a difficult question, because "where 'situated learning' talks of *learning*, questions about educational technology tend to be framed around *teaching* and instruction" (p. 10, emphasis in original). It is an ongoing debate in the education and training professions: how to design learning environments so that learners may engage in practice in social contexts (see also Schwen & Hara, in press). Brown and Duguid (1993) suggest that designers and instructors must create a learning environment in which learners are allowed to "steal" appropriate knowledge. In this study, we found that many of the public defenders' motivations come from professional pride and willingness to help their clients. The question is how we can facilitate this professional pride and the development of professional identities. We need to continue searching for answers to this question.

A CoP involves both work and learning. However, currently educators and business organizations are overly excited about CoPs, which they see as a way to "create" a learning community. Brown and Duguid (1993) argue that one can create a learning community. However, our position is that a CoP and a learning community are different concepts. We argue, in agreement with Wenger (1998), that "learning cannot be designed: it can only be designed for - that is, facilitated or frustrated" (p. 229). Additionally, Wenger indicated that a learning community is helpful for newcomers. We

would like to emphasize that this type of community is also useful for experienced workers because experienced workers can learn from novices to share experience with their colleagues and engage in brainstorming. In CoPs, learning is implicit, as opposed to the explicit nature of learning found in learning communities. In order to improve their work practices, workers have to continuously learn new things. Hence, learning is, in fact, embedded in practice.

Future research on CoPs should be expanded from Wenger's (1998) theorization of the concept, which is based on social theory. That is an important step towards understanding CoPs. Certainly the concept of CoPs receives a lot of attention from different fields, including organizational studies and information science (e.g., Davenport, 2001; Yanow, 2000) yet empirical research on CoPs is sparse.

Our belief is that a single viewpoint is not sufficient to explain the phenomena occurring in CoPs. Indeed, we need to combine various perspectives in the field to have a complete picture. Table 1 provides a summary comparison of "attributes of collectives" across authors: our attributes of CoPs grounded in the study presented here, Henrikson's organizational learning framework (2000), and Weick's sensemaking in organizations (1995). As shown in the table, Weick draws attention to shared meaning and knowledge building. On the other hand, Henrikson appears to be insuring that the ontological meaning of organizational learning is focused on the process, rather than the structure of a collective, such as a CoP. Weick and especially Henrikson both emphasize the less pleasant or socially desirable aspects of a community that seems an act of omission by Lave and Wenger (1991).

Conclusions

We have described a CoP in a Public Defender's Office. Each CoP has unique attributes. Yet, we identified that there are several common characteristics that serve as scaffolding for organizational learning: 1) a group of practitioners; (2) the development of a shared meaning; (3) informal social networks; (4) supportive culture—trust; (5) engagement in knowledge building; and (6) individuals' negotiation and development of professional identities. In addition, in order to form a CoP, the members have to learn continuously and be motivated to perform better. Consequently, being autonomy learners is another important aspect of a CoP. In the community of public defenders, the attorneys we studied shared the same vision, which is to help their clients. To accomplish this goal, they try to improve their own practice through interactions with their colleagues.

Although this study sheds light on the phenomena, it is clear that more studies need to be conducted. Orr (1996) describes the shortage of studies investigating work practices in the literature. Stephenson (1995) claims that "very little is understood about the invisible communication patterns that link parts of the organization with each other." These authors suggest that more studies are needed in this area. We believe that the current study contributes significantly to the field because it adds an empirical examination of both of these areas.

It is also necessary to develop a tool to investigate these phenomena. Ethnographic research has been widely accepted as an effective tool to study them (Blackler, 1995; Brown & Duguid, 1996; Hayes & Walsham, 2001). At the same time, the use of mathematical tools, such as graph theory (Stephenson, 1995; Freeman, 2000)

and Formal Concept Analysis (Freeman & White, 1993; Ganter, 1997; Hara, 2002) offers the potential to analyze the social interaction among actors in organizations. Thus, further development of methodologies is needed in this area.

In sum, this article calls for the clear definition of CoP and introduces a case study of CoPs. The concept of CoPs seems to appeal to organizations. However, we caution that before making prescriptions about designing a CoP for learners, we as scholars need to explore the characteristics of the concept. Finally, in order to understand CoP, the researchers in this field ought to develop more cases to obtain empirical data that will lead to a firm definition.

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Table 1:

Wenger	Hara/Schwen	Henrikson Organizational learning	Weick Sensemaking
	1. Professional practitioners	A social enactive collective formed of necessity	Any social collective usually arising out of uncertain circumstances
	2. Shared meaning	Not objects but dynamic processes both productive and destructive, inter-subjective meaning	Retrospective know the past not the present, many meanings synthesized
Spreading information	3. Informal networks	The boundaries are inter and intra organizational in borderless organizations and are often bumpy, less important than dynamics Can be dynamically related to multiple levels of collectives	Social: social mediation of meaning, mind and self develop in social
	4. Supportive culture	The group may be mutually supportive the understanding comes from contradictions but they are often contentious and correlated with power asymmetries	Not a requirement can be contentious
Preserving and creating knowledge	5. Knowledge bldg	Emergent dynamic sensemaking often contentious or arising out of contradiction	Enactment: making sense of the day to day, activity is the unit of analysis, reciprocal activity and individual changing Ongoing: always in process, 'throwness,' interruption arousal Extraction of cues: simplifying context Plausibility: vs. accuracy
Negotiating meaning Being a home for identities	6. Individual's negotiation & Professional identities		Identity construction: both group and individual