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ABSTRACT

A qualitative interpretivist study analyzed interrelationships among professional practice, knowledge gained in continuing professional education (CPE) programs, and context of employment. Eighty semi-structured, tape-recorded interviews were conducted with social workers, lawyers, adult educators, and nurses who had attended continuing education programs 9-24 months previously. Findings indicated professionals construct a knowledge base by moving back and forth between continuing professional education programs and their professional practice. Each profession described the process used to construct knowledge differently. Social workers framed their construction of knowledge from CPE programs through their advocacy role. Lawyers saw CPE as providing a "road map" for their practice. Adult educators indicated that from attendance at CPE programs they often would get one idea that was the "spark for a creative process" of connecting the new information to ideas and experiences, or "connecting different bodies of knowledge." Nurses described how they linked client needs with new information from CPE so the entire knowledge base became integrated. This process of knowledge construction was affected by elements of the structural, human resources, political, and symbolic frames of the contexts in which professionals were employed. (Contains 36 references.) (Author/YLB)

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This qualitative interpretivist study analyzed the interrelationships among professional practice, the knowledge gained in continuing professional education programs, and the context of employment. Eighty semi-structured, tape-recorded interviews were conducted with social workers, lawyers, adult educators, and nurses who had attended continuing education programs 9-24 months previously. Findings indicate that professionals construct a knowledge base by moving back and forth between continuing professional education programs and their professional practice. This process of knowledge construction was affected by elements of the structural, human resources, political and symbolic frames of the contexts in which professionals were employed. Implications for research and practice in continuing professional education are drawn.

The Issue/Problem

How do professionals develop their practice? What are the relationships between knowledge presented in continuing professional education programs and the use of that knowledge in the employment context? What impact does the context of professional practice have on the development of knowledge? The value of continuing professional education (CPE) and its application has been studied from a variety of perspectives. However, many studies have tended to isolate and analyze the individual learner, rather than evaluating the learner within a particular context. Recently the intricate, elaborate, and dynamic relationship among learning, context, and professional work is one that has begun to be explored from a new perspective. Research in the transfer of knowledge (Broad & Newstrom, 1992), adoption of innovation (Hall & Loucks, 1981; Lockyer, 1991), and diffusion of innovation (Rogers, 1995) has laid the groundwork for the study of learning and context. However, in these frameworks, research questions have asked how does knowledge learned in one location get transferred or applied in a different location. The complexities inherent in the transfer process have led researchers to attempt to simplify their studies by looking at transfer, adoption, and application as linear, one-way processes of translating information into professional practice.

More recently however, researchers and program planners (Black & Schell, 1995; Eraut, 1994; Gray-Murray, 1994; Grzyb, 1997; Kozlowski, 1995) have begun to understand that professionals engage in a more interactive process with the context of their practice and tend to combine elements of the context, information from continuing education, and experience in practice to construct their own individual knowledge base, rather than to follow a simple transfer process. Even though researchers have begun to question the relationships between knowledge presented in CPE and the use of that knowledge at the work site, the missing element is still a comprehensive, holistic assessment of the interrelationships between the learner, the knowledge generated within the educational program, the elements of professional practice, and the context of organizations in which professionals are employed.

The use of knowledge in professional practice is an important issue within the field of adult education for a variety of reasons. First, employers and professionals in the United States spend billions of dollars annually on professional development programs. "Employers spend over $50 billion per year on formal employee training and education. Approximately $180 billion per year is spent on informal, on-the-job training" (Rowden, 1996, p. 3). Despite this huge investment of capital in CPE programs the field of adult education can offer few assurances that the knowledge learned in these programs is linked to the context of

practice. Second, professionals develop and change their practice with the intent of continually meeting clients' needs and expectations. However, most professionals go through this process of professional development without a clear understanding of how to link their learning to their practice. Professional practice development has been described as moving along a continuum from novice to expert (Benner, 1984; Dreyfus & Dreyfus, 1985). The stages of practice development have been described, but the learning process underlying these stages and the connection to the context of practice has not been articulated. For professionals to continue to meet the needs of their clients in society, a greater understanding of the connections between the context of practice and professional learning is needed. Finally, adult educators need to come to a new understanding of learning and context. This is particularly important in CPE because over the last 10 years there has been a shift in the autonomous practice of professionals. Often, professionals are now employed by larger organizations and have less control over the context of their practice. As professionals continue to be integrated into organizations the linkages between context and practice need to understood, defined and analyzed so that learning and professional practice can continue to grow in these new contexts.

Theoretical Framework and the Purpose of the Study

The interrelationships of three major concepts knowledge, context, and professional practice were explored in this study. Knowledge, for the purpose of this study, was viewed as a social construction of information that occurred through a process of constructivist learning and perspective transformation. Constructivists (Ausubel, Novak, & Hanesian, 1986; Brunner, 1990; Novak, 1998) believe that individuals create knowledge by linking new information with past experiences. Within a constructivist framework, the learner progressively differentiates concepts into more and more complex understandings and also reconciles abstract understandings with concepts garnered from previous experience. New knowledge is made meaningful by the ways in which the learner establishes connections among knowledge learned, previous experiences, and the context in which the learner finds themselves. Lambert et al. (1995) identifies multiple principles of constructivist learning theory. These principles include the following major points: (1) knowledge and beliefs are formed within the learner, (2) learners personally imbue experiences with meaning, (3) learning activities should cause learners to gain access to their experiences, knowledge and beliefs, (4) learning is a social activity that is enhanced by shared inquiry, and (5) reflection and meta-cognition are essential aspects of constructing knowledge and meaning. Thus, constructivists believe that learning is a process of probing deeply the meaning of experiences in our lives and developing an understanding of how these experiences shape understanding. Within a constructivist framework, learning activities are designed to foster an integration of thinking, feeling, and acting while helping participants to learn how to learn (Novak & Gowin, 1984).

Learning in the context of professional practice is also informed by the growing body of work in the area of situated cognition (Brown, Collins, & Duguid, 1989; Lave & Wenger, 1991; Wilson, 1993). Situated cognition can be conceptualized as having four interrelated learning aspects: (1) learning that is situated in the context of authentic practice, (2) transfer limited to similar situations, (3) learning as a social phenomenon, and (4) learning that relies on use of prior knowledge (Black & Schell, 1995). In this view, the authentic "activity in which knowledge is developed and deployed ... is not separable from, or ancillary to, learning and cognition. Nor is it neutral. Rather, it is an integral part of what is learned" (Brown et al., p. 32). According to Wilson,

> Learning is thus an everyday event that is social in nature because it occurs with other people; it is "tool dependent" because the setting provides mechanisms (computers, maps, measuring cups) that aid and, more important, structure the cognitive process; and, finally, it is the interaction with the setting itself in relation to its social and tool-dependent nature that determines the learning. (p. 73)

Lave and Wenger have indicated that authentic activity and tools within the context of use helped foster the construction of knowledge.

Transformative learning (Mezirow, 1981, 1991, 1994, 1997) expands our understanding of constructing knowledge by defining learning as a critically reflective process where the learner ultimately reflects on assumptions that frame previous understandings and determines whether those assumptions are still valid in the learner's present situation. Adults learn within this framework by adding to old meaning schemes,

acquiring new meaning schemes, transforming meaning schemes, or transforming perspectives. According to Mezirow (1997):

> a significant personal transformation involving subjective reframing, that is, transforming one's own frame of reference, often occurs in response to a disorienting dilemma through a three-part process: critical reflection on one's own assumption, discourse to validate the critically reflective insight, and action. (p. 60)

The issues in the relationship of context to professional practice are particularly important in today's environment because professionals are often considered employees of organizations rather than free, autonomous decision-makers (McGuire, 1993). Grzyb et al. (1997) point out that these changing conditions necessitate a deeper understanding of organizational professions, the impact of bureaucracy, and changing organizational dynamics on professional work. Cervero (1985) included the identification of the social system (context) as a variable with impact on the outcome of continuing education programs. "This may be the most powerful, yet overlooked, variable in analyzing the effectiveness of continuing professional education" (p. 87).

To provide a framework for examining the context of professional practice, Bolman and Deal's (1997) framework was selected. Bolman and Deal demonstrated that organizations could be viewed through four different lenses or frames, including the structural, human resources, political, and symbolic frame. The structural frame draws on concepts from sociology and emphasizes formal roles, defined relationships, and structures that fit the organizational environment and technology. Within the human resources frame it is believed that organizations have individuals with needs and feelings that must be taken into account so those individuals can learn, grow, and change. The political frame analyzes the organization as groups competing for power and resources. The tools of this frame are bargaining, negotiation, coercion, and compromise. Finally, the symbolic frame (similar to organizational culture) abandons rationality and sees organizations as tribes with cultures propelled by ceremonies, stories, heroes, and myths. Bolman and Deal believe that organizations can be understood, analyzed and changed by using different lens and/or frames as ways to approach organizational issues. This framework was selected for the research reported here, because it provides different lenses by which the researcher can examine and analyze the context in which professionals conduct their practice. The framework also provides a method by which the researcher can compare and contrast the impact of context on different professional groups.

Specific Questions the Study is Designed to Address

The following research questions were advanced to guide this inquiry:

1. What makes knowledge meaningful in the context of professional practice?
2. How does professional practice facilitate knowledge construction?
3. How is the construction of knowledge affected by the different frames (structural, political, human relations, symbolic) of the context in which professionals practice?
4. What are the interrelationships between knowledge, context and professional practice?

Data Collection and Analysis

To analyze the identified research questions, individuals from four different professions were interviewed 9 to 24 months following their attendance at a CPE program. A purposive sample (Patton, 1990) of 20 social workers, 20 lawyers, 20 adult educators and 20 nurses was recruited. Professionals ranged in age from 22-60, and had between 1 and 20 years of experience in their professions.

Data in this study were collected through semi-structured interviews and document analysis. Following human subjects' approval, data were collected from participants who had attended a one or two day CPE program on topics that were pertinent to their particular profession. Prior to completing the tape-recorded interviews, the researcher conducted a document review of the continuing education planning information that specified the program objectives, content, time frames, and evaluation strategies of each CPE program from which study participants were drawn. Participants were then questioned to determine what they had learned or not learned, how they incorporated or did not incorporated that information into their practice, and what aspects of their practice they determined to be significant in fostering their learning. Participants were also questioned about the context of their practice including, the organizational structure, human resources, politics, and culture. The interview guide used in this study was designed around the three aspects of the theoretical

framework. Ten of the 80 interviews in this study were completed over the telephone, but the majority of interviews were conducted in face-to-face meetings between the researcher and participants.

Verbatim transcripts were created from the tape-recorded interviews. Subsequently, three data analysis strategies were employed. First, the researcher created a concept map (Novak, 1998) that depicted the connections the study participant described among learning, context, and professional practice. "A concept map is a schematic device for representing a set of concept meanings embedded in a framework of propositions" (Novak & Gowin, 1984, p. 15). Concept maps are created with the broader, more inclusive concepts at the top of the hierarchy, connecting through linking words with other concepts than can be subsumed. This tool helped the researcher understand the conceptual relationships expressed by study participants and provided an indication of the structure of knowledge developed by each individual. The maps were used to assist the researcher in tracing the interrelationships between the concepts under study.

Second, a category system was created and all data were coded within categories. The categories were used to identify thematic areas articulated by participants. The category system was developed following a review of all concept maps in the study along with the data generated in the individual verbatim transcripts. An iterative review process was used and the category system was refined three times during the process of data coding. The interview transcripts were then coded into a computerized data analysis software program.

Third, a system of matrices (Miles & Huberman, 1994) was created to examine what different groups of participants expressed about each of the research questions under study. The first matrix was created to explore what study participants described as their learning in CPE programs. Additionally, this matrix was used to link the concepts taught in a CPE program to professional practice. The second matrix was created to explore the differences between the contexts in which each of the professionals in the study practiced. Matrix 2 demonstrated the organizational frames (structural, political, human relations, symbolic) and what professionals said about the frame based on where they were employed. This allowed organizational frames across a variety of contexts in one profession to be compared. Matrix 3 was created to explore factors that either facilitated or inhibited professionals from using knowledge in practice. Finally, Matrix 4 was created to explore how professional practice and specifically important cases in practice facilitate knowledge construction. Specific attention was given to the effect these cases had on how professionals described what they learned and how they linked information to CPE or the context in which they were working. The combination of these three data analysis strategies allowed the researcher to examine connections between concepts under study, to compare and contrast different groups in the sample, and to examine both individual and group findings related to the different research questions.

Two quality control mechanisms were employed in this study. First, member checks were employed during the interview process and all study participants reviewed the concept map created from their interview for accuracy and completeness. Second, two qualitative researchers completed a qualitative data analysis audit to review the study for dependability and confirmability (Lincoln & Guba, 1985). Findings from the audit indicated that the methodological decisions (dependability) made during the process of the study were sound and that the study findings were confirmable in the data.

Findings

Study results indicate that professionals who attend CPE programs used this new information to continually construct and reconstruct their knowledge base. Professionals described how their knowledge base was constantly changing and that their experiences, attendance at CPE programs, and dialogue with colleagues all contributed to the continual growth in their knowledge base. For example one lawyer indicated:

> Everything has changed since I got out of school. The criminal code. . the total family code. . . Everything that has changed I have basically learned from new seminars. Every single thing about my divorce practice now is something I learned in practice and in seminars.

Professionals in this study described how their knowledge base is reconstructed and changed each time they learn something new. They did not see transfer of learning as an outcome of their educational endeavors; rather transfer was viewed as an integral part of the knowledge construction process. The new information learned in CPE programs was added to a professional's knowledge base through a complex process of thinking about the new information, acting on the new information and identifying their feelings about the information. Professionals indicated that the new information had to connect to other concepts before it was meaningful to

them, and part of the process of making knowledge meaningful was to use it in practice in some way. Thus, transferring information to practice was essential to the process of knowledge construction because often in this process of using information the professional again changed what the information meant to them based on the results they observed.

Study findings lend support to constructivist theories of learning (Novak, 1998). Professionals describe how learning and using information was a very active process of linking, relating, and connecting multiple pieces of information until it made sense to them. In constructing a knowledge base, professionals in this study assimilated information into their cognitive structures from a variety of sources. Information from CPE programs, experience, clients, reading, and observation of mentors, for example, was incorporated into their cognitive structures. This information was both assimilated and integrated with previous experience such that the nature and character of both the new and the old information changed. For example, a nurse in this study described how she used information from CPE by saying:

> It's a response that you come up with from the knowledge that you've got and you do it without even thinking about it. Like I said earlier, it's reserved in your mind. When you need it, you are able to pull it out and use it. Maybe not exactly the way it was taught but in some fashion.

A social worker in this study indicated a similar point by stating:

> I think it is just when I am hearing it and taking notes, I am thinking oh that's why this is this way. That is right when I am hearing it as it applies and then I just go to work with the new knowledge. It sort of blends in.

An adult educator indicated "Well, where I get some of my ideas I can't always say, because I can't go back and say it was this meeting or that meeting, because it kinds of pulls together. Everything builds on everything else."

These professionals are describing the progressive differentiation and integrative reconciliation involved in concept learning (Novak, 1998). In this process, concepts are differentiated into smaller and smaller components and at the same time reconciled by connecting these components and linking them to previously known information. As this process occurs, both the nature and character of the previous and the new information change making it more and more difficult to separate small chunks of information. Professionals described how the construction of their own knowledge base, blended information together in unique ways. As one adult educator said:

> What happens is as I listen, my brain up chunks, into the bigger picture and it just give me all kinds of ideas. Sometimes they are not even directly related to what I have been hearing. But something I see, something will be said, whatever, and my brain will go into high gear, and then it goes out several levels, and all of a sudden there it is, oh yeah, this will fit in here or there.

How Knowledge Becomes Meaningful in Professional Practice

It was through this constructivist process that knowledge from CPE became meaningful to professionals in this study. However, each profession described the process used to construct knowledge differently.

Social Workers

Social workers framed their construction of knowledge from CPE programs through their advocacy role. Social workers described themselves as "stewards" of the information and explained how they actively sought out ways they could help their clients by using information learned in CPE.

> I went to that session thinking about the future more and wanting to know what was going to be happening with the social work profession in the near future especially . . . with the W2. I guess it was a broader thing, a more political interest that I had, how could I use what I learned to help defend my clients needs in the system.

For social workers a key component of how knowledge became meaningful to them was in the combination of their experience in professional practice and the new information they were learning in a CPE program. Social workers described a dual process in CPE programs where they learned new ideas and came away with specific practice alternatives that could be used on a day-to-day basis. However, what social workers overwhelmingly discussed was that CPE also provided a vehicle by which they could create new energy for their practice.

Social workers articulated that CPE provided an avenue that gave them the opportunity to reaffirm what they already knew, and helped them remember why they had chosen this profession in the first place.

> From going to the conference, you kind of get a sense of excitement about being part of this profession, that is so much bigger than what it is that you are exposed to every day, and the diversity of it. . . even if you weren't actually in a specific session that was being talked about, just talking to people, overhearing people, there was like an energy being created...helped me remember why I became a social worker.

Social workers also described their need to take a break from the day-to-day practice struggles and have an opportunity to refresh both their minds and spirits. They described how they needed to "climb out and refresh" so that they could reenter their profession with a renewed commitment, enthusiasm and energy.

Lawyers

On the other hand, Lawyers saw CPE as providing a "road map" for their practice. Lawyers indicated that their professional role was to examine the case that the client presented and then "boil down the case to the bottom line issue". Once the bottom line issue was identified then lawyers compared the case, as presented, to the law. The law was the standard. Lawyers saw CPE as a mechanism to provide information on changes in the law. With this updated information on the law, then lawyers felt they were prepared to deal with new cases brought by clients. Thus, CPE provided the road map for practice. Lawyers described this thinking process as follows:

> When you go to law school your brain gets re-wired in a number of ways and you learn a new language. It is a language of law. It is not just a lot of phrases, but a way of speaking and a way of connecting things and all that. It is a form of logic as well as a form of speech. You are not allowed to vary from logical principles.

Lawyers also indicated that the use of information in practice was straightforward: "You either apply the information or you don't. The outlines alone are valuable because you get to take them home. You use that information on an ad hoc basis as clients and cases demand." Knowledge from CPE programs was important to lawyers because it facilitated their becoming more "action oriented". Since they believed that a client case may "rise or fall on the details", lawyers used CPE information as update and reference information for their cases. Additionally, they used CPE to help expand their practice into new areas. Lawyers would describe how before venturing into a new area of practice, they often attended a CPE program to obtain the basic information about that area of the law.

> I decide two criteria (for attendance at CPE), one if it is an area of practice that I currently work in I will often go to get continuing updates. The second criteria is if it is an area that sounds interesting that I don't practice in and that I am curious if I can incorporate into my practice, devoting six hours to something, maybe $150.00 is a minimum commitment for me to make that kind of business decision.

Finally, lawyers, like other professionals, indicated that CPE did help reaffirm their knowledge, but that the logic of the law helped separate the emotion of their cases. Lawyers indicated how the logical thinking process prevailed in their work, and the update information from CPE helped foster that process. Lawyers also indicated that their understanding of how they constructed knowledge changed as their practice developed. Lawyers indicated that they moved to a much more active incorporation of information into their knowledge base as they gained experience in their profession.

> When I first started taking CLE programs 19 years ago, they weren't much use to me because I didn't know what to do with them. I was a young lawyer and I needed credits and somebody said you really ought to go to this seminar with me and that was great, but I wasn't that integrated into child practice or real estate law which were my things at that point. So not having had a background where I discovered the need for some of this information, I didn't know what to do with the information. It was only as a more established lawyer that I really understood what I wanted and really needed and would try to go out and get it.

Adult Educators

Yet another view on knowledge development within professional practice was provided by adult educators. Adult educators indicated that from attendance at CPE programs they often would get one idea that was the "spark for a creative process" which would initiate a process of connecting the new information to ideas and experiences, or "connecting different bodies of knowledge". But adult educators were different from other professions, in that they felt sharing this creative process or idea was part of the knowledge construction process. Adult educators described how they often took on the role of "hummingbird" because they felt obligated to take this new information and "drop a little bit here and there" with different groups. Adult educators indicated that this sharing process was vital to their knowledge construction. The key component for knowledge to become meaningful for adult educators was their ability to share this knowledge with learners.

> I might get ideas in a program, but I am really a resource, a conduit for people to be able to move forward in their jobs, because I do explain the information to them that I get. I often take information I learn and develop it and bring that forward and say here is a program, here is something we should learn about. I might say, 'Why don't we put together a workbook on the web with this'.

Adult educators saw a vital portion of their role as taking a new idea and helping other make connections across other bodies of knowledge. Adult educators used this connection process to help knowledge from CPE programs become meaningful to them and to the groups they worked with. For example, an adult educator in this study had attended a CPE program on shifting emphasis from teaching to learning. She indicated:

> I was thinking about our teaching innovation center after that program. That is part of the whole picture of learning on our campus. As a matter of fact, we are working right now in a small committee to try to diagram, . . . a concept of our learning system and I am sure that . . . the stuff that we learned that day is in several different places. As we got through this process I try to pull in what we learned that day, so that everybody has an opportunity to learn it. That way our organization has been influenced by that little kernel or seed that was sown at the conference.

Finally, as with other professions adult educators indicated that CPE was a mechanism to reaffirm what they already know.

> When I left that program it wasn't so much that I learned things, but it reinforced a lot of what we were doing here or that I had thought about or considered. When I left there, I wanted to make sure that the information went somewhere. I think I was most interested in seeing some action come out of it than in my own process. Again I don't know that I learned new things, it was probably affirming stuff that I believed.

Nurses

Nurses described how they linked client needs, with new information from CPE so that the entire knowledge base became integrated. This knowledge base functioned more like a web of information that nurses would draw on when presented with new clients. Consider the nurse who describes this process as follows:

> I mean I can't really say what helps me deal with what. I think of it more like creating mosaics. I mean, you have all these little pieces that come from all over and in and of themselves they don't mean much, but when you put them together you have a beautiful picture. Continuing education and client care are more like that for me. I take little pieces of what I learn from many places and put them together until I have my own picture.

Nurses described that for knowledge to become meaningful for them they had to think about the information, have some feelings about it, and ultimately take some action on the new information. Nurses described how when they learned something new it was often based on the needs of their client and was relevant to their practice. For example, this nurse described a CPE program and how she incorporated the information in her practice.

> Well, it was a very practical oriented workshop, because you go right back to the labor and delivery and you're working with fetal monitoring on a daily basis. You're able to interpret the results much more. For example, I had a woman who was having deceleration, and normally decelerations make your nervous, but I had a better understanding of how to delineate between a stressful deceleration and a normal deceleration.

For this professional, the knowledge was relevant to practice and based on the needs of the client. Nurses, like other professionals, reported that CPE often reaffirmed what they already knew, contributed to their personal growth and increased confidence.

> If you have confidence that what you know is good information and it works, then I think you exude that confidence and therefore put the patient in a more relaxed state. Another thing, it revitalizes you. When you have a speaker that is so vital, it revitalizes you for your own role.

Additionally, nurses indicated that for knowledge to become meaningful to them they needed to take action on what they had learned. This action was sometimes talking with colleagues at the conference and upon return to their worksite. But often, the action was trying a new idea with a client and seeing positive results. A nurse in the study describes how she had intervened with the family of a client who was dying. In a conference on death and dying this nurse learned that large doses of morphine given at frequent interval is a perfectly acceptable way to mange the pain of a terminal client. She had received a call from the client's granddaughter questioning what medication to give the client because the physicians were not in agreement. The nurse describes:

> I said to [the granddaughter], 'if you feel free, I'd go with the larger dose to keep him comfortable,' it was ordered like every 2 hours. She gave it probably every hour and he died the next day. Well, this is what [the speaker in the workshop] was saying. That it's okay. In hospice you can do this. And it worked. It helped him.

This nurse described how her whole view of managing pain changed as a result of the information from the conference and seeing the comfort level of her client increase. It was the observable result that contributed to the knowledge becoming meaningful for this nurse.

In summary, each profession indicated that knowledge became meaningful through a process they used to link the information with their practice. Because of their advocacy role social workers saw themselves as stewards of information, lawyers described the CPE process as a road map for their practice, adult educators explained how they shared new ideas as part of the knowledge construction process, and nurses saw themselves as creating mosaics. But overall professionals tended to agree with the nurse who said:

> It [continuing education] makes the things that you've seen understandable from lots of different angles that I never recognized. Everybody puts their world together just from their experiences, and there's a whole lot of different experiences out there. Continuing education helped me see the different angles. I think I've become a better person and a much better professional from that.

Professional Practice Facilitating Knowledge Construction

As indicated previously, constructivist learning theory can help us understand how professionals acquire knowledge, how they make use of their experiences and how they learn through their practice. But the results of this study indicated that there is another level of learning that goes beyond what we can understand from constructivist frameworks. Professionals described how they learned topics in educational programs only to have their ideas on those topics changed in the context of practice. Often, it was an emotional encounter with a client that changed a professional's practice. In other words, these encounters were as important in transforming professionals' perspectives as was the knowledge acquired in CPE courses.

Professional practice seems to facilitate knowledge construction by fostering a reflective process. Professionals are confronted with client situations that challenge their beliefs, assumptions and knowledge base. This challenge triggers a reflective process that begins an examination of issues within the professional's role. Professionals in the study seem to be describing a transformative learning process similar to that posited by Mezirow (1991). In each of the cases described by professionals in this study an event occurred in their practice that forced them to examine their own beliefs or their previous learning. Often these encounters were such memorable experiences that professionals tended to use them as a way to organize and rethink their professional work. Benner (1984) calls these paradigm cases and believes that professionals develop networks of paradigm cases that help foster an understanding of their learning and their role.

For example, a social worker in this study described how her understanding of resistance in working with involuntary clients changed her views on the connections between social work and politics. She indicated that her basic education "labeled people as resistant." She explained the impact of her practice on this perspective:

> When somebody comes to you with a problem, I learned that you don't have to spend as much time fixing that person as you do fixing the things around them in the environment. If you listen, you know it is not so much resistance; but it's racism, it's poverty. I learned to reconceptualize resistance and focus not so much on the individual in a therapeutic sense, but to focus on the system, and to be an advocate at the system level.

This social worker indicated that she had constructed a new meaning of the concept of resistance through her practice and that she had transformed her perspective so that her interventions with clients were on a much broader level.

In another example, a lawyer in this study indicated how his views on dealing with divorce cases had changed. He indicated that during his initial education process he had learned to be very aggressive in assuring financial security for his clients. He explained that after dealing with many divorce cases his perspective changed.

> When I first started practicing, I would become very aggressive in divorce cases about dividing up assets. That was what I learned, I made sure that I evaluated assets to maximize my clients side of the ledger and I made sure they were divided in such a way that my client would get absolute top dollar and I would fight very forcefully and aggressively. When I look at things now, after dealing with many cases, I think it is important that people get the dollar amount that they should, but I think there are other aspects that come into play also, like a continuing good relationship between the husband and wife if it is possible to preserve that. Not thinking that the dollar is the end all and be all, and that there are other more important things rather than getting the most possible money out of a given situation such as preserving relationships, such as continuing good relationships with the children, such as peace of mind, such as not spending a great deal of money on attorney fees. . . such as avoiding a trial and the trauma and the bad relationship that can carry over for years between parties.

This lawyer indicated that he had constructed a new understanding of divorce outcomes and shifted his practice from a focus on the financial aspects, to a focus on the human aspects of the process.

Adult educators also changed their perspective on learning following significant interactions with clients. This adult educator explained that she had learned how to do instructional planning, and program development in her graduate school experience, only to have those ideas changed in her practice. She explained how her work in an adult literacy program changed her views on teaching and learning. She described how she worked with a 35-year old man over a long period of time, getting to know this person as a unique individual. She indicated:

> I went into that experience with some preconceived notions about people who can't read as being uneducated and unable to do many things. But this man was so interesting, we would have wonderful discussions. . . This man wanted so much and deserved so much. He had a job, and was able to negotiate his world and nobody at work knew he was illiterate. He wanted to learn to read so he could drive a car, so he could find a better job, so he could read the newspaper. He loved knowing what was going on in the world. He put in a full day's work and then would come to work with me, he never missed a day. When I start thinking that what I do is not important, I think back to this gentleman who was very courageous and I think this is why I do what I do. When we talked I learned many lessons from him. I was teaching him how to read but he was teaching me about life.

This adult educator changed her practice based on a new understanding and respect for the learner, indicating that to her education was more than instructional plans and program, it was about the two-way relationship established with the learner.

Finally, a nurse in this study described how she saw herself as a relatively good communicator. She had learned communication theory in her basic preparatory program, reviewed it in CPE programs and practiced the skill with her clients while doing assessments, interviews and treatments. When she worked with a client who was dying, however, this client taught her what it meant to communicate. Her understanding of communication shifted from saying the right thing, to being available on the client's terms.

> I was working on a medical unit and I met this incredible man who was dying of cancer. I used to spend a lot of time talking to him. He talked to me a lot about dying. He was in a private room and people would walk into the room. He said, 'Watch them. They barely come into the room. They don't come near the bed. When I told them I didn't want any more treatment, that I was willing to die, each day they got further and further from my bed.

> None of them sit down now.' He said to me, 'They think they are communicating but they are not.' This really hit home for me, because, my assumption was that if I said the right words, I was communicating well. After this experience I recognized that I was basing my actions on a view of communication that was not really accurate in my practice. I now believe that communication is about presence, caring and time, not just words

In this example, the professional learned by constructing an understanding of the concept of communication and by changing her perspective and assumptions about what communication meant following a significant practice experience. Thus, a major component of how knowledge becomes meaningful in professional practice is determined by how the professionals' perspectives change following client interactions.

In this study, it was evident that professionals did change how they viewed their practice following significant client interactions. These client encounters often triggered what Mezirow (1997) referred to as a "disorienting dilemma" (p. 60). Following the disorienting dilemma professionals reassessed their own assumptions, talked about their experience to colleagues and often took action to change their practice. Interestingly this process was evident in all four professions interviewed in this study. Lawyers changed their perspective on divorce, social workers changed their perspective on resistance, adult educators changed their perspective on illiterate leamers, and nurses changed their perspective on communication.

In summary, study results indicate that knowledge from CPE programs becomes meaningful first, through a constructivist process where professionals link, assimilate, differentiate, and reconcile concepts from CPE within their cognitive structures. It was demonstrated that each of the professions in this study uses a slightly different process to accomplish this construction of knowledge. The difference in how knowledge is constructed appears to arise from the difference in professional work. For example, lawyers use CPE information to construct a knowledge base by obtaining update information and then comparing it to the law. Whereas adult educators, construct a knowledge base through the process of sharing information. These processes of sharing information or comparing information to the law arise directly from the work or practice of the particular professional.

Secondly, the data indicates that many professionals experience a more transformative learning process where specific client interactions foster a reflective process that leads to an analysis of assumptions and a shift in professional approach based on a new understanding of what knowledge means in the context of practice. The client encounters that trigger this analysis and reflective process often challenge the professional to articulate their values and beliefs and assess their assumptions. Often the learning that arises indicates to the professional that they either were not acting on their assumptions, or they were acting in a way that was contrary to their assumptions. Either way it is the reflective process that fosters the change in practice.

Context

The complex process of knowledge construction and transformation described in the previous section of this paper occurred in a particular practice context as well. So not only did the content of the CPE program, and the professional practice shape the construction of knowledge but the context in which professionals worked added another level of complexity to the process.

Overall, the main difference study participants described in the context of their practice related to the level of autonomy and independence they possessed as professionals, or the extent to which their practice was housed within a traditional or bureaucratic organizational system. The practice of social workers was either housed in governmental agencies, where both macro and micro political issues impacted the work of these professionals, or social workers practiced independently as therapists and thus, had a greater degree of autonomy. The practice of nurses tended to be housed mostly in bureaucratic health care systems where structure and politics impacted the professional work in which the nurse engaged. Adult educators, in this study, who practiced in colleges and universities or community agencies appeared to have a good deal of input into organizational decision making, but did not have total autonomy or independence. Those adult educators who practiced as trainers were most often part of a larger hierarchical organization, thus having less autonomy and independence. Lawyers, for the most part, appeared to be the profession in this study that demonstrated the most autonomy and independence. Whether lawyers were working in large firms or small firms, there seemed to be less impact of the context on their professional practice. The structural, human resources, political and symbolic frames described by Bolman and Deal (1997) offer a way to analyze the impact of the context on professional knowledge construction.

Structural frame

Each of the four professions, lawyers, nurses, adult educators, and social workers described the impact of the structural frame in a unique way. Lawyers indicated that the structural frame had little impact on their use of knowledge: "The information that I gain when I go to those seminars has nothing to do with the actual structure of the working environment." Lawyers indicated that because of the autonomous nature of their practice, if they learned new information that they wanted to use with a client they did so with very little concern about the structure of the firm. Nurses, on the other hand described the structure of their organizations as a "hurdle", and indicated that to use new information in their practice they often had to find creative ways to go around the organizational structure. For example, nurses indicated how they often had to "break rules" to make sure their client's needs were met. Social workers seemed to feel that the use of new information that would benefit their client was an individual responsibility and they felt obligated not to let the structure of the organization get in the way. Social workers described how they would take information from CPE programs and use it with clients even if that meant going outside an organizational policy "I learned about doing genograms, and as I have time I am doing that with my families. That is not a policy or procedure that we have, but I think it is good to do, so I do." It was interesting to note, however, that social workers employed in health care described the structure of the organization similar to the way nurses described the structure. Social workers employed in health care organizations felt there were more structural hurdles to the use of new information than social workers in private practice or governmental agencies. Adult educators expressed two different views on the structure of their organizations. When an adult educator was in the role of direct teaching, the structure of the organization did not impact how they used knowledge from CPE programs. If the adult educator had learned a new teaching or learning concept and was trying that out in a direct relationship with a learner or a class they felt relatively free to use that information as they saw fit. However, if an adult educator was in an administrative role in their organization, then they described how they had to be much more aware of the organizational structure and the appropriate channels to go through to institute change.

Human resources frame

All four professions indicated that other people in the organization were for the most part encouraging and supportive to using new information in their practice. Nurses, social workers, and adult educators indicated that their "bosses and colleagues" were usually open to new ideas and willing to try new things, as long as "the ideas weren't too far out." Nurses, social workers, and adult educators expressed that they often talked with colleagues about new ideas or "just to run things by them" before trying something new. Interestingly, nurses, social workers, and adult educators who had more years of experience in their practice seemed to more openly discuss practice issues, concerns and new methods for providing care than did their younger colleagues.

Lawyers, however, were often in individual and solo practices; as a result, the human resources issues affected them differently. Lawyers indicated that they often had to seek out other people so that they had a colleague to talk with about new ideas. Lawyers indicated that people they worked with did not get in the way of using new information, but rather the issue was not having enough easily accessible colleagues with whom to talk. Many lawyers in this study developed informal colleague networks of individuals with whom they could interact. Sometimes these were infrequent lunch or breakfast groups that met when an issue arose and other times they were structured groups that met on a routine basis. The interesting finding here was that these were groups created for the express purpose of sharing ideas in practice, but these groups were created outside of a CPE mechanism. For example, a lawyer in this study described a group in which she was involved.

> There are eight to nine female attorneys that are about my age that get together once a month. It started when we all felt burned out and we had to talk to someone, since we are not in a firm, you need someone to bounce things off of. It started out being the burned out lady's lawyer's luncheon. You know, "Those burned out lady lawyers are going to lunch." Now we are the BOLLL. We meet at a restaurant, once a month on Fridays. And they put us up on the bulletin board BOLLL and everyone goes, what's that? We interact and maybe we will help each other. If I have a form that I think is useful, I will share it. Or if someone used a new appraiser in a certain County to appraise a house that we don't know about, we will share that information. If somebody learned anything in a seminar that someone else was at or had a case that was different, we kind of bounce ideas back and forth.

Another difference articulated by the lawyers in this study was they did not use CPE as an opportunity to network with colleagues. CPE, in their mind, was strictly for getting updated information on the law. If lawyers wanted to network with colleagues, they chose these more informal groups instead.

Political frame

In each of the professions interviewed, the political frame operated in a different manner. Lawyers seemed to ignore the political frame and incorporated whatever information they needed in their practice. It is not that lawyers were unaware of political issues, but rather that the political issues did not impact how they used information from CPE programs.

Social workers were well aware of the political frame and used information from CPE programs in what they saw as their advocacy role. Social workers were cognizant of both the macro and micro political issues that impacted their work, and yet, would indicate that "just because a door is closed, it does not mean it is locked." Social workers expressed that their role as an advocate was political and as such, they felt it imperative that they not only understand the politics of the contexts in which they worked, but that they be able to work in the political realm to help meet their clients' needs.

> The whole thing is political, as social workers we not only work in therapeutic situation, but everything we do has a political basis. . So if you are working in an outpatient mental health clinic, what is happening with HMOs and the legislators' control over that, determines what we can do with clients.

In contrast, nurses would literally screen out information from CPE programs if they believed the political context would prevent its use. For example, nurses indicated that they would not even share information from CPE programs if they felt they did not have the power, money or time to use the information.

Adult educators seemed to describe the political issues of the organization as mostly time and resources. Adult educators would describe how lack of time, staffing and people would often hinder their using new information from CPE programs. Additionally, adult educators described how cost of providing programs, instructors or lack of money from a larger system often impeded developing new programs or ideas that they learned about in CPE programs.

Symbolic frame

For nurses, adult educators, and social workers it appeared that the political issues of their practice seemed to define the symbolic frame in many ways. The issues of gender, power, change, money, and time all initially arose from the political frame but became imbedded in the organization as part of the symbolic frame. So for nurses, adult educators, and social workers there did not seem to be a real clear distinction between these frames. Lawyers described one element of the symbolic frame that did have an impact on their use of knowledge. Lawyers described how their work was set within an adversarial system and that their use of knowledge was often done as a mechanism to "defeat the other side" or to "win the case." Lawyers would describe that they felt good in their practice when they could "obtain an outcome for their client that the client wanted."

Discussion

How can these findings be interpreted? Why is there such a strong political screen in some professions compared with only a minor structural hurdle within the same profession? Bolman and Deal's (1997) framework was initially incorporated in this study as a way to collect data and to analyze the context of practice across professions. However, understanding the findings of this study, may rely on a deeper understanding of the culture or symbolic frame of the context in which professionals practice. Frost (1991) discusses organizational culture as existing in an integrated perspective, differentiated perspective, and a fragmented perspective. From the integrated perspective the organizational culture is highly consistent. Consensus abounds, and "cultural members agree about what they are to do and why it is worthwhile to do it" (Frost, p. 8). From a differentiated perspective subcultures exist and organizational consensus only exists within these subcultures. "At the organizational level of analysis, differentiated subcultures may co-exist in harmony, conflict, or indifference to each other" (Frost, p. 8). From a fragmentation perspective, organizational ambiguity is pervasive, no clear consensus exists and the organization exists in a "constantly fluctuating pattern

influenced by changes, for example, in events, attention, salience and cognitive overload" (Frost, p. 8). Table 1 depicts Frost's multiple view of organizational culture.

Table 1
Defining Characteristics of the Three Perspective on Organizational Culture

Features	*Integration*	*Differentiation*	*Fragmentation*
Orientation to Consensus	Organization-wide consensus	Subculture consensus	Lack of consensus
Relation Among Manifestations	Consistency	Inconsistency	Not clearly consistent or inconsistent
Orientation to Ambiguity	Exclude it	Channel it outside subcultures	Acknowledge it

Note: From *Reframing organization culture* (p. 9), by P. J. Frost, 1991, Thousand Oaks CA: Sage Publications. Copyright 1991 by P. J. Frost.

If each profession in this study is viewed as a subculture of the organizations in which they practice, then it appears to offer some explanation of the reported differences. Lawyers, in this study appear to operate in a highly integrated fashion. There is great consistency in how they see their role, little ambiguity around the duties for functions they perform, and a great deal of organizational consistency in how the practice of law is viewed. This study demonstrates that social workers and nurses are consistent in how they view their role, what they learn from clients, and the belief in the value of the profession. And yet, differentiation exists when the subculture of social work and nursing conflicts with other subcultures in the same organization. Adult educators, on the other hand, appear to function in a more fragmented culture. This is evidenced by the lack of consensus on the role of adult education, the inconsistent descriptions of adult educator roles and the acknowledgment of ambiguity in the field. This was seen in this study in the manner in which adult educators in direct teaching roles described their practice differently than educators in administrative roles.

Barley and Van Maanen (1984) increase our understanding of the concept of subcultures in organizations through their work on occupational communities. Occupational communities or occupational subcultures are terms used to define professions, occupations, unions, trades, and associations that exist within the context of an organization. These occupational communities are unique in that they share characteristics that make them more similar to other members of the occupational community rather than the organization in which they reside. Occupational communities exist and function within a specific context and yet the beliefs, values, and assumptions on which these communities operate may come from outside that context. "Observers employing an occupational perspective imply that persons weave their perspectives on work and career from the existing social, moral, physical, and intellectual character of the work itself" (Barley & Van Maanen, p. 289). Jobs and work positions may be created and managed by the organization and yet the occupational community defines the roles, responsibility and behavior of its members. Barley and Van Maanen tells us, "Although a position is organizationally created and sanctioned, the work that comprises such a position often has a history of its own and, therefore, a context that is not organizationally limited" (p. 291). They define occupational communities as

> a group of people who consider themselves to be engaged in the same sort of work; who identify (more or less positively) with their work; who share a set of values, norms, and perspectives that apply to, but extend beyond, work related matters; and whose social relationships meld the realms of work and leisure. (p. 295)

They continue by describing how the boundaries of the work and the social identity of the work are important to the occupational community. Professionals in this study can be viewed as an occupational community. Professionals see themselves as involved in the same sort of work, they identify for the most part positively with the work and their clients, they share many similarities in what they know, learn and understand from their work, and often have social relationships with others in the same community.

The social identity within an occupational community is central to the individual's self-image. This self-image is a socially constructed image derived from the daily interactions with others in the community. These social identifiers revolve around what Barley and Van Maanen (1984) refers to as "tie-signs" (p. 299). This "complex system of codes which enable the members of an occupation to communicate to one another an occupationally specific view of the work world" (Barley & Van Maanen, p. 299). In this study, nurses, lawyers, and social workers from a variety of contexts, demonstrate remarkable consistency in describing what

they learn from professional practice, specifically from their paradigm cases. Adult educators, however, had a more difficult time describing these types of similarity in their professional practice. Because adult educator roles were more ambiguous, fragmented, and more individual there was less consistency in their descriptions. The consistency demonstrated by lawyers, social workers, and nurses depicts what Barley and Van Maanen (1984) describes in their discussion of a "socially constructed image" (p. 299) for an occupational community. Adult educators had much more difficulty identifying a socially constructed image. As an example, one adult educator in this study described her difficulty in understanding what adult education really was in the context of her work environment. She indicated that she was creating, planning and offering nutrition education programs, and even though she had a Master's Degree in adult education she still initially thought of herself as a nutritionist. She indicated that before she became effective in her job she had to "learn to think of herself as an adult educator, rather than a nutritionist."

Finally, Barley and Van Maanen (1984) describes the concept of involvement as important to occupational communities. "Involvement implies, among other things, absorption in the symbolic nature of work so that work takes on a special significance and sets the involved apart from others who do not pursue the same livelihood in the same fashion" (p. 300). They believe that claimed responsibility for others is a major factor in the involvement in work. "When one believes that one holds a symbolic trust, identification with an occupation is facilitated" (Barley & Van Maanen, p. 303).

Involvement in the work is a key factor for nurses, social workers, and lawyers as occupational communities. These professions describe a high level of involvement in their work and this involvement in their profession has influenced their self identify as well. For example, consider this nurse as she describes how she sees herself:

> The idea of nursing as a career. I guess that's what I really see in it for myself. This is my calling. God called me to do this. I don't think you can do it if it's not really a calling.

Social workers described the same high level of involvement when stating: "What I found out was that there is a real bond between social workers. They all feel that they are fighting the good fight and it is a really tough job." Lawyers, as well, indicate professional involvement when expressing:

> One reason I wanted to be a lawyer was to have a job that means more than going to the office and going back home, to have issues, in general social justice, working for good things, having a purpose beyond just going to work.

Adult educators are involved in their work, and yet this involvement differs based on their organizational role. Adult educators in direct teaching roles describe significant involvement with their students, ideas of learning and promotion of self-direction, and personal growth. Adult educators, in administrative positions, describe their role more in light of budgets, enrollments, and management issues than direct service issues. The situation this creates is that at times you find adult educators, in the same context, at odds with each other over the difference in roles.

In summary, the relationships between knowledge, context, and professional practice exist in a highly complex, interrelated system. Study results indicate that professionals construct their knowledge base by moving along a continuum that progresses from meaningful learning to perspective transformation. Additionally, the concept of occupational communities was used to describe the impact that the structural, human resources, political, and symbolic frames have on professional's construction of knowledge. Because professionals have dual loyalties to their own occupational community and employer, different frames of the organization will have a different impact on the way professionals construct knowledge.

Impact

This study raises a number of questions and implications for adult education specifically, in the area of continuing professional education. First, it suggests a major research question in the field of continuing professional education: Is application of knowledge an outcome of continuing education or part of the knowledge construction process? This study supports Detterman's (1993) position that there is no general cognitive skill that promotes learning transfer, and thus the importance of contextualized learning is emphasized. This study should be replicated across additional disciplines (teachers, engineers, and architects) to determine if other professions integrate new knowledge in a similar fashion to the four described here.

Second, this study suggests implications for the practice of CPE. It is clear in the study results that knowledge, context, and professional practice interact to foster a process of constructing knowledge and using

information. Yet, most CPE programs are created on the premise that simply providing transmission of information in an educational context will impact practice. In reality, the elements of professional practice, combined with the context, link with the information from CPE programs to create meaning for practice. This implies that CPE providers need to be more creative in employing teaching and learning strategies that foster this complicated knowledge construction process. If the goal of CPE providers is to only transmit information then current educational strategies will suffice. But if the goal of CPE providers is the development of professional practice, then educational strategies need to link CPE, practice, and context. The role of a CPE provider, as indicated in this study, is much more than simply designing programs so professionals can adopt new information in their practice. The role of the CPE provider is facilitating a process of learning, reflection, growth, and change. Study findings indicate that adult educators need to come to a new understanding of learning and context. As such, this study indicates that a reframed vision of CPE is warranted. This vision would advocate the improvement and advancement of professional practice through education, evaluation and consultation. The intent being the provision of continuing professional education services (i.e., education, evaluation and consultation) that links knowledge creation, context and professional practice.

If, as Cervero (1992) and others point out, the goal of professional practice is wise and prudent action, then what may be needed is a new model of CPE and a significantly expanded role for the CPE provider as well – a role in keeping with one of Houle's recommendations for the future of CPE. Houle (1980) suggested that the future vision of CPE would best be served only if continuing education were "considered as part of an entire process of learning that continues through the lifespan" (p. 308). As such, CPE providers can become the boundary spanners between continuing education and professional practice, with a clearly defined vision of the CPE role being the further development of professional expertise and the consequent improvement of professional practice. This places the CPE provider in a greatly expanded role, which necessitates the development of skills in education, evaluation, and consultation. The linking of education, evaluation, and consultation has the potential to "create an interconnected web of relationships in which the interactive processes [of CPE and professional practice] depend on one another for the growth and sustainability" (Lambert et al., 1995, p. 135) of providing professional services to clients. Such a web of mutually beneficial relationships will promote the responsibility and promise of CPE well into the new millennium.

In his classic text, *Continuing Learning in the Professions*, Houle (1980) stated:

> The task for this generation is to move ahead as creatively as possible, amid all the distractions and complexities of practice to aid professions . . . constantly to refine their sensitiveness, enlarge their concepts, add to their knowledge, and perfect their skills so that they can discharge their responsibilities within the context of their own personalities and the needs of the society of which they are collectively a part. (p. 316)

Even though these words were written 20 years ago, the need for CPE as a field of practice to move ahead creatively still exists. In many ways, the field of CPE is even more fragmented now than in Houle's conceptualization. CPE providers tend to identify with and practice within their individual professions rather than within the general field of adult education. Yet, there is a great deal that CPE providers can learn collaboratively from each other regardless of the specific profession to which they belong. The results of this study can begin to guide both practitioners and researchers to a greater understanding of professional learning and the connections professional learning has to the context of professional practice.

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