Learning and Context: Connections in Teacher Professional Development

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This qualitative interpretivist study analyzes the interrelationships between, the knowledge gained in teacher professional development programs and the context of employment. Findings indicate that teachers construct a knowledge base by moving back and forth between continuing education programs and their professional practice. This process of knowledge construction is affected the structural, human resources, and political frames of the contexts in which teachers are employed. Implications for research and practice are drawn.

Keywords: Learning, Context, Teacher Professional Development

Professional development for teachers has increasingly become an important issue as the standards movement (Thompson, C. & Zeuli, J., 1999) gains momentum across the United States. With an increased emphasis on assessing teacher performance based on professional standards, professional development programs are experiencing greater scrutiny. The implied expectation is that professional development programs should assist teachers in meeting the national performance standards. However, numerous authors have indicated that the present teacher professional development programs are not meeting the goals of facilitating teacher learning and application of new content in their classrooms. Darling-Hammond (2000) indicates that the "issue is having professional development that is sustained, content-rich and curriculum-embedded instead of what we call the sort of 'drive-by-workshop' or 'spray-and-pray' approach to professional development" (p. 8). Numerous authors have called for a new approach to professional development for teachers, including Alvarado (1999) who states, "The new professional development must be different and much more powerful, and it will involve solving problems and collaborating at levels that we have never even contemplated" (p. 36).

However, before we can begin designing new professional development programs and systems for teachers, we must first understand how teachers learn in the context of their practice. We need to be able to answer these questions: How do teachers develop their practice? What are the relationships between information presented in teacher professional development programs and the use of that information in the school or employment context? What impact does the context of teaching practice have on the development of knowledge?

The use of knowledge in professional practice is an important issue within the field of human resource development (HRD) and teacher professional development for a variety of reasons. First, schools, employers, and professionals in the United States spend billions of dollars annually on professional development programs. According to Rowden (1996) "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" (p. 3). Despite this huge investment of capital in professional development programs, few assurances exist that the knowledge learned in these programs is linked to the context of practice.

Second, researchers in the field of HRD and continuing education have long been active in the study and analysis of professional learning (Cervero, 1992; Houle, 1980), continuing professional education (Cervero, 1988), transfer of training (Broad & Newstrom, 1992), and evaluation of continuing education programs (Ottoson, 1997). Yet, very little of the knowledge base within the field of HRD and continuing education or the research in professional and organizational learning has been incorporated into the analysis and development of teacher professional development programs. The fields of HRD and teacher professional development may well have a great deal that they can learn from each other. Each field may benefit from the development of a cross-disciplinary approach to enhancing the practice of teaching in a school context.

Conceptual Framework and the Purpose of the Study

Explored in this study were the interrelationships of two major concepts: knowledge and context. 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 (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 understanding 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 himself. 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 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), which 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, Brown, Collins and Duguid tell us, 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" (1989, p. 32).

To examine the context of professional teaching practice, Bolman and Deal's (1997) framework was selected. Bolman and Deal (1997) demonstrated that schools and organizations can 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 that individuals can learn, grow, and change. The political frame analyzes the organization as comprised of 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 (1997) believe that organizations can be understood, analyzed, and changed by using different lenses 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 teachers conduct their practice. The framework also provides a manageable way for the researcher to analyze the context of teachers practice.

The development of professional teaching practice has been looked at from three perspectives in the literature: program development and effectiveness, individual teacher development, and new ways to foster teacher learning. Research on program development and effectiveness indicates that the process is complex, ever changing, and involves multiple strategies and various components at various times (Loucks-Horsley, Hewson, Love & Stiles, 1998). For example, Castetter (1976) found that six factors lead to successful programs, including the development of program requirements, development need, performance targets, development plans, unit-development programs, and evaluation. Additionally, research indicates that while 85 percent of teachers report receiving less than eight hours a year of professional development in specific areas, professional development programs of longer duration are more effective (NCES, 1993-94). The impact of professional development programs on promoting individual teacher development has also been examined. Ashton, Buhr & Crocker (1984) found that high efficacy teachers had high academic standards, focused on academic instruction, articulated well-developed student expectations, developed on-task behavior, and created a supportive classroom environment. Finally, new ways to foster teacher learning have been proposed. Proposals include aligning professional development programs with national teaching standards, creating professional development programs that are continuous, rather than single offerings, and increasing both variety in subject matter and pedagogical expertise.

The literature cited here indicates that understanding teacher professional development requires an understanding of the interrelationships of knowledge and context. And yet, as Porter, et al indicate, "despite the amount of literature, relatively little systematic research has been conducted on the effects of professional development on improving teaching or on improving student outcomes" (Porter, Garet, Desimone, Yoon, &Birman, 2000, p. 6).

Specific Questions the Study was Designed to Address

This study used an interpretivist framework to search out the relationships and meanings that knowledge and context have for each other. This study was not testing a hypothesis or looking for a linear cause and effect relationship. Rather, this study provides an analysis of complex interrelationships for the purpose of understanding multiple causality. The following research questions were advanced to guide this inquiry. (1) What makes knowledge

meaningful in the context of teaching practice? (2) How is the construction of knowledge affected by the different frames (structural, political, human relations, symbolic) of the context in which teachers practice?

Data Collection and Analysis

To analyze the above research questions, teachers working in an urban school system were interviewed 9-12 months following their attendance at a university of sponsored teacher development program. A "purposive sample" (Lincoln & Guba, 1985) of 18 teachers was recruited, including eight elementary teachers, seven middle school teachers and three high school teachers ranging in age from 25-45. Additionally, 11 teachers were Caucasian and seven were African American, of which eight were men and 10 were women. 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 continuing professional education (CPE) program or class on topics that were pertinent to their teaching role. Participants were then questioned to determine what they had learned or not learned, how they incorporated or did not incorporate 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 two aspects of the conceptual framework.

Verbatim transcripts were created from the tape-recorded interviews. Subsequently, two 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. Novak and Gowin (1984) define a concept map as, "a schematic device for representing a set of concept meanings embedded in a framework of propositions" (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. Concept maps were also returned to teachers for their review of the accuracy of the representation of their interview.

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.

Two quality control mechanisms were employed in this study. First, member checks were employed during the interview process to determine accuracy of information. Second, all study participants reviewed the concept map created from their interview for accuracy and completeness. Concept maps were mailed to study participants and after they reviewed the map for accuracy, they returned the maps with any changes to the researcher.

Findings

Study results indicate that teachers who attend professional development programs use this new information to continually construct and reconstruct their knowledge base. Teachers described how their knowledge base was constantly changing and that experiences, attendance at professional development programs, and dialogue with colleagues all contributed to the continual growth of their knowledge base. For example one teacher indicated:

> As a teacher, one gets kind of caught up in their own little world of doing what they do. You teach —you don't look at the big picture. Continuing education classes that I've taken have allowed me to see that big picture more. So it gives you a better sense of what the whole educational system is about - it expands what you know and what it means.

Teachers in this study described how their knowledge base is reconstructed and changed each time they learn something new. The new information learned in professional development programs was added to a teacher'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. Teachers 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, teachers again changed what the information meant to them based on the results they observed.

How Knowledge Becomes Meaningful in Professional Practice

For knowledge to become meaningful in professional teaching, practicing teachers actively engaged in a process of thinking about the information learned, identifying feelings about the information and taking some action with the new information. These findings support the constructivist theories of learning discussed earlier.

Thinking. Teachers actively described how professional development programs helped them learn content that they used in their teaching practice. For example, teachers interviewed in this study had learned content related to math, science literacy, family school communication, teaching strategies, teaching with technology, and curriculum development. Teachers were not only able to describe what they learned but also indicated how they use the information they learned. For example teachers indicated that they learned the following:

> *I really learned that it takes a family to initiate and continue the child's development and education. I really feel that it's a huge component, whether it is a single-parent home, a two-family home, or even adopted/foster. I mean, we learned about all different types of family situations. And it was a real eye-opener.*

> *Well, I learned that it's a lot easier to connect my academic areas with drama than I thought it was going to be. That's for sure. And I learned some specific techniques and strategies that I could use to incorporate drama in my classroom-using drama as an introductory activity to allow students to activate their background knowledge and participate in something in a different way. For example, I was doing a unit on energy and had the students play different roles as if they were designing roller coasters. And we got together a roller coaster development team and acted out what that would be like if they were on that team and we were trying to pitch an idea for a roller coaster that they had. So that required them to get into a character—and develop some ideas and ways that they could go about pitching their roller coaster.*

What we see in these statements is that teachers were constantly thinking about the information they learned. They thought about it, discussed it with peers and administrators, and often tried out an activity before the knowledge became meaningful to them in their practice.

Feeling. Teachers in this study also explained that for the knowledge they learned in professional development programs to become meaningful, it had to be linked to some feelings they had about the information. Teachers described how continuing education programs were often a review, and they felt good about the review as it refreshed their memory:

> *. . . for me the class was a lot of review. I attended [name] college and that program focused a lot on balanced literacy and whole language, so a lot of the stuff in the professional development class reinforced that information and refreshed my memory on a lot of stuff I had forgotten about. Helped me remember to do more journaling and why it's important.*

Teachers discussed how they felt refreshed following continuing education programs, as if they had gained new insight. They indicated that professional development programs facilitated an open-minded approach and helped prevent negative attitudes. For example, consider the teachers who indicated:

> *. . . The programs helped me understand where other people's views are coming from and also helped me take a closer look at myself, you know, a self-reflection of looking at it and saying, you can't just decide that just because a certain district is using a certain curriculum that that's the best curriculum there is. There are so many options out there in the world that you have to really think about the curriculum that you're using. It made me really think about that and be more open to new ideas.*

Teachers also indicated that professional development increased their confidence and enhanced their creativity:

> *I think a lot of professional development programs have helped me to think outside of the box. They helped me be willing to try things and to try different things. A lot of the continuing education classes that I have taken have been the different ones with the nature centers and the zoo, and it helped me create field trips to be an educational thing rather than only an outing for the day.*

Teachers indicated in this study that a major role of professional development programs was not only to keep them up to date, but to help support teachers in being willing to try new ideas and to foster a creative approach to teaching. These findings support the work of McDaniel and McCarthy (1989) who suggest that professional development programs that "stimulate, motivate, inspire and challenge can assist teachers in renewing their confidence in the potential of teaching and thus, raise their teaching efficacy (cited in Whitworth, 1999, p. 2).

Acting. In addition to thinking and feeling, the third element that fosters knowledge becoming meaningful in a teacher's practice, is action. Action may be implementing something they learned in their classroom as these teachers indicate:

I started doing some of that writer's workshop with my little one. And what I want to start soon with my kids is sort of a reader's workshop for kindergarten and getting my parents involved and sending home books in small groups and then having the kids come in and talk about them in class.

We had a math night and a reading night where we invited the parents to come in, and we had dinner. And then we had a "make it take it" night to help them make learning projects that they could do with their own children.

These teachers took specific ideas they had been exposed to in a professional development program and used them in their classroom. Often the use of these ideas was similar to what had been presented in the professional development program, but teachers were also very clear that they took the "seed of the idea" and then modified it to fit their own situation.

Teachers acted on the information in another way. Often this involved sharing knowledge or getting involved in planning for changes at the school. Teachers would find that they could use the knowledge gained in professional development programs to influence a planning process or a decision-making process. For example:

. . . we just got DI'ed (direct instruction) in our school, which was a major curriculum issue. We've mostly been talking a lot about the mathematics investigation curriculum, so I actually got engaged in a lot of different conversations about what we're doing in the class and what's being discussed in class. So I'd say that there was a lot of cross-reference there to the program I attended. I felt the need to say something about the curriculum.

For the teachers in this study, knowledge from professional development programs became meaningful as they engaged in a process that involved thinking, feeling and acting on new information. Teachers did not take something they learned in a program and simply apply it in their classroom. Rather, they analyzed the information and then were motivated or inspired to try a particular action with the information. At this point, then, the knowledge was more meaningful and more integrated into professional teaching practice.

Context

The complex process of knowledge construction and learning within teaching practice described in the previous section of this paper occurred in a particular practice context as well. 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 teachers' knowledge construction.

Structural frame. Teachers in this study described two types of organizational structures in their schools. Some described a decentralized structure, where they were assigned to grade level teams and given the authority and autonomy to control their teaching practices through the team. In this situation, teachers felt that they could use a great deal of information from professional development programs because in conversation with other team members, they would decide how to use, modify and/or adapt the information to their school and grade level.

In contrast, some teachers described a more traditional bureaucratic system. In theses systems, it was most often the principal and assistant principal who were in charge, and teachers felt that any changes they wanted to make had to be approved at that level. Additionally, teachers described how, in these organizations, they were often cut out of decision-making processes and this impacted their ability to use new information in their practice. For example, one teacher indicated that:

The staff is beautiful in itself, but really the administration and the staff have to work together, and it's just not happening. The staff are being told a lot of things they must do, and they're not being included in the decisions, which really needs to be done. Because, the teachers are the school. And they know what's going on best in their classrooms and it's hard for the administration to know exactly what's going on every single moment of the day within how many classrooms.

An additional structural factor that teachers described as impeding their use of information from professional development programs was the school's curriculum and the process used for student assessments. The structure of the curriculum and the volume of assessments seemed to prevent teachers from attempting to incorporate too many new ideas into their teaching. Teachers indicated:

Some of what got in the way of using the information is the pressure to get through-especially at the middle school level-performance assessments. You know, a lot of the drama activities would be really cool to do and to incorporate into project-based learning, which would be any teacher's dream to do. But the fact of the matter is I need to push my kids through six assessments before the end of the year. So a lot of it [the professional development program] I felt like, "Ok, how would I ever get to this?"

Human resources frame. Within the human resources frame, teachers describe two predominant factors that seem to impede their use of new information from professional development programs: the role of orientation and the role of other teachers.

In this study, teachers described that the way they were welcomed and oriented to their school had a large impact on their willingness to use new ideas in practice. Some teachers described orientation and mentor programs that assisted them in making the transition from being a new graduate to becoming a teaching professional. In these settings, teachers described feeling nurtured and assisted with the process of implementing new ideas. However, the overwhelming majority of teachers recalled that they received little or no orientation to their school. Many teachers explained that they were hired at the last minute, given a quick presentation on benefits and salary, and then assigned to a classroom and "turned loose." One teacher described how he spent the week before classes began putting together desks in his classroom, and then on the first day of class realized he had nothing prepared for the students but, he stated, "they did have a place to sit." The lack of orientation programs or programs that socialized teachers to the profession left teachers feeling devalued, as if their role was one of "discipline and classroom management" rather than teaching. These teachers indicated that they were hesitant to suggest new ideas because the environment was "just about getting the work done."

The second factor that teachers described in the human resources frame as impacting their use of new information in practice was the role of other teachers, specifically veteran or experienced teachers. Teachers often indicated a hesitancy to talk with other teachers about new ideas or new ways of doing things, not because they felt colleagues would actively block them from implementing something new, but because of a feeling that others were not interested. Consider the words of this teacher in the study:

> I would say the thing that mostly gets in the way is other teachers because a lot of times they don't want to hear—well, if the teacher's a new teacher, then they want to soak up everything. But if it's an older teacher—in the building I'm in right now there are a lot of seasoned teachers—they'd rather do things the way they've been doing them. Teachers themselves, they would be the ones that would stop me from sharing. I think that people that have been doing this longer than 10 years are comfortable in the way they're doing things, and they are just real hesitant for change.

Political frame and symbolic frame. Bolman and Deal (1997) make a clear distinction between the political frame of the organization and the symbolic frame. And yet, in this study that distinction is not quite clear. Often it seemed in teachers descriptions that the culture or symbolic frame of the organization arose from the political frame. As such, the findings presented here are related directly to the political frame.

In describing organizational politics, teachers clearly described the impact of both internal politics and external politics on their use of knowledge from professional development programs. In terms of internal political issues, teachers described coalitions between some administrators and teachers saying, "Well, it is the favorites that get to do things." Teachers also described the allocation of resources as an issue impacting what they did in their classrooms. Teachers indicated that at times they did not even suggest something they had learned because they knew their school or district just "did not have the money for that." Finally, teachers described that the power vested in administration impacted not only what they did in their classrooms, but how they used new information in teaching.

> I was surprised at how the reality of the politics of teaching work. I didn't really realize that there was, you know, so much power in administration. Although there are many different situations and I'm looking forward to moving to one where things are equal in making decisions in the school. But I didn't know that there was so much politics going on in the schools. It makes a difference in what I can and cannot do.

In addition, teachers described how the external politics of school reform, standards, and state mandates impact their use of knowledge from continuing education programs. What teachers described was a feeling of being overwhelmed with the changes, mandates and reforms. They also described a frustration with not being included in the development of the reforms, standards, and mandates. Teachers clearly felt that the things that were being imposed on them were out of their control and that their input into these changes was not welcomed. Teachers described how they would "go through the motions" of attending mandated educational programs, and then return to their classrooms and "do what I know would work." Teachers' feelings about mandated reforms seems to have created a vicious cycle of passive resistance to knowledge in education programs. Consider this teacher's statement:

> We've started doing some of the reforms at my school. Now that they have this balanced literacy in the district, a lot of the teachers, even in my school, are getting like, "You know what? I'll wait this out. This will be a thing for three to five years until the next big thing comes along, so I'll do as little as I can to appear like I'm following the rules until this burns itself out." So they'll go to the meetings and not really pay attention. They'll meet with the balanced literacy coordinator, but they won't really know where this fits. There's no real "buy-in" to this reform or to this new program that they're doing because they just feel like, "eh, it'll be gone in a few years."

The above statement is a very common description of how external political issues impact teachers' use of new knowledge. As this teacher indicates, there is suspicion about the change, uncertainty about the value of the new

information, and distrust in a new program that may not be around long enough to invest time and energy in learning about it. When the external politics came along, one teacher explained, "I would just keep my head down and do what I know works in my classroom."

Implications for Future Research and Connecting HRD with Teacher Professional Development

This exploratory study initiated an examination of the connections between teacher professional development and the context of teaching practice. More research in this area is needed, specifically, research that includes a larger sample of teachers and a more longitudinal focus. Additional research is also needed on how teachers develop their practice. In this study there were many references to teachers with numerous years of experience being unwilling to change their practice. What factors contribute to this? What differences exist between teachers who spend time and effort developing their expertise and those who do not? What impact does the context of the school have on this process? A greater understanding of the processes involved in teacher development has the potential to improve not only the delivery of programs to teachers, but also the impact of those programs on student outcomes.

Current teacher professional development programs are often based on an "update model" that relies on a one-way transmission of information. It is clear from this study that teacher professional development programs need to be based on a constructivist and transformative model that will foster the integration of knowledge, context, and teaching practice. To create these types of programs, a number of changes are needed. First, those who are planning teacher professional development can benefit from understanding alternative approaches to program design. HRD can offer alternative ways to look at teacher professional development. In this frameworks, an inquiry approach to professional practice development is advocated.

Second, professional development programs where teachers use an action learning (Marsick & Watkins, 1999; Marquardt, 1999) approach to analyze cases in their practice and determine not only the action to be taken but the learning that coincides with the action have great potential in teacher professional development. Even though action learning was not the focus of this study, it is clear that these types of programs can assist teachers in developing their critical reflection skills so that they can more clearly understand their own assumptions, beliefs, and philosophy of teaching and thus more fully integrate new knowledge in their practice. Additionally, an action learning approach may be help teachers clarify the issues that arise in urban teaching contexts and how they can more effectively incorporate the urban context in the classroom.

Third, action learning approaches have the potential to more closely align the professional development for teachers with the current changes, mandates, and reforms within the school context. Action learning focuses on the identification of problems in context, group questioning related to the problems and alternative approaches, a commitment to taking action to solve the problem, and a commitment to learning through a reflective process (Marquardt, 1999). The intent here is to take action to implement programs and/or solve problems while at the same time learning and developing professionals in the process.

Fourth, HRD researchers and practitioners have a great deal to offer schools in the areas of training, development, organizational learning, organizational change, and performance improvement. As this study indicates, few teachers have participated in training programs that were designed with the organization or school in mind. A partnership program between schools and businesses with an HRD focus may well benefit both organizations.

Finally, these implications support the recommendations of the Wisconsin Center for Education Research: "One dilemma professional development programs face is whether to focus on philosophical issues, such as changing teachers' view of learning, or to focus on more pragmatic issues, such as the use of specific instructional approaches and curriculum materials. . . It's important, therefore, to maintain a balance between a practical and philosophical perspective, with the understanding that at different times the process of professional development might focus more on one or the other, but that neither is sufficient alone" (p. 2). Action learning offers a methodology to focus on both the practical and philosophical.

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