

# *Professional Learning Communities as Complex Emergent Phenomena*

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## Abstract

We have been involved with two different teacher learning communities, each devoted to engaging practicing teachers with personally meaningful professional learning. Teachers in these two communities self-selected participation in their respective communities, one at a high school in the Lower Mainland of British Columbia, and the other, an on-line learning community of mathematics teachers in the southwest region of Saskatchewan. Through building relationships and interconnections both in person and on-line, the two communities have offered a space for collective meaning-making, where, together, teachers explore the spaces of their own working lives, the situated perspectives of their own schools and the nature of a collective enterprise that sought to support these explorations. Our respective roles within these communities involved acting as facilitators. We developed opportunities for collective engagement, designed activities out of teachers' identified desires for mathematics concept exploration or aspects of students' involvement with the learning process, participated in conversations and offered support for personal explorations.

This paper uses complexity thinking to inform current conceptions of teacher professional learning communities. These are on-going explorations and issues of importance for the two communities.

## Introduction

The purpose of our paper is to describe and share the experience of the two learning communities that we have been working with, but not just to explore how current conceptions of teacher learning communities cohere to complexity thinking (or not). More than that, our intent is to share the case studies of two specific communities in an effort to expand the definition of a learning community to one that resists definition beyond being a situation where people associate in something together. In his analysis of the idea of community in American urban sociology, Lyon (in Schutz, 2006) contends that community's immanent impreciseness is exactly what makes

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the term so dynamic and he argues that in the social sciences, the most significant concepts are also the most contingent and unspecified. Through this broadened definition of community, allowance is made for nodes of contact for diverse perspectives and webbing of relation.

Teachers need opportunities to explore the space of their collective potential (Davis, 2005; Davis & Sumara, 2001). This can happen in a number of ways, but we have found that the professional learning community can offer an opportunity for teachers to engage with each other in meaningful ways to explore and challenge their own practices as well as to develop a collective sense of identity and purpose. Informed by perspectives on situated learning, models of professional growth for teachers and complexity thinking, our work seeks to understand how to build a space for teachers to work together in order to expand the sense of the possible. This work is not intended to be prescriptive. Rather, through the space of discussing the two very different learning communities presented here, we can search for commonalities and generalities across the particular formations. Our roles have been as collaborators with each other, as well as with the learning communities among two groups of teachers. These groups of teachers are separated widely by context, but not intention, as together, we entered the spaces of the communities to explore forms of relationality. From the perspective of practicing teachers, belonging to a learning community allowed them to engage with other teachers who collectively wanted to develop a better understanding of themselves as practitioners.

The paper begins with a brief description of the communities with which we worked over the 2005/06 school year. Through this depiction, we hope to offer a sense of the context for these teachers' work, as well as our positionalities as facilitators for these communities and researchers interested in how to facilitate and support opportunities for teachers to grow as professionals. Literature in the fields of situated learning (Lave & Wenger, 1991) and teacher professional development (Dufour, Eaker & Dufour, 2005) background the paper, while poststructural continental philosophies on contemporaneity (Derrida, in Gaon, 2005) and complexity (Davis & Sumara, 2006) offer perspectives on how we have come to understand these professional learning communities. We wrap up the paper with some implications for teachers and directions for future research.

## Learning Communities across the Mountains

From opposite sides of the Canadian Rockies, our two professional learning communities operate in very different locales and formats, one urban and one rural, one face-to-face and one on-line. The *Marigold Professional Learning Community* (MPLC) is a group of 6 teachers from Marigold School, a private coeducational K-12 school in the Greater Vancouver area of British Columbia. The school has approximately 650 students, with about 400 in the senior school. Both students and teachers live in several of the communities around the greater metropolitan area of Vancouver, with some students (and teachers) commuting up to one hour to school each day. There are several other private as well as public high schools in close proximity to Marigold.

Teachers were invited to join the MPLC by one of the teachers who, during her graduate work, had facilitated a professional learning community among a group of

fellow mathematics teachers. Having returned to classroom teaching, she wanted to bring some of her graduate work into the school in which she was now employed, seeking to engage her colleagues in discussions of practice and theory. Her interest in building a new learning community was instrumental in instituting the MPLC, and her involvement remains catalytic for the learning community project, which now involves three teacher groups at Marigold. One of us (Wendy) had been a colleague during graduate school and shared her interest in the potential of learning communities. When invited to work with the MPLC as a university facilitator (Baird & Mitchell, 1987), it was seen as a wonderful opportunity for collaborative work on areas of mutual interest, as well as a rich possibility for putting theory into practice.

Over the 2005/06 school year, the MPLC met once every three weeks. Since Marigold is a relatively small school, the teachers in the professional learning community are high school teachers who work in a variety of subject areas including math, science, French, and social studies. During the early meetings of the community, the group sought to develop goals and identify problems to focus on during the school year with the intention of developing solutions. Problem setting (including finding and framing) is an important phase of problem solving, and it is based on work in practice (Schön, 1983). Community meetings centered on reflecting on teaching practices, sharing experiences and attempting to theorize new possibilities. Thus, the group engaged in inquiry into their own teaching practices. Phelps (2005) found reflection to be a positive force for promoting learning and change.

The teachers of the MPLC were also interested in fostering learning and change as it is relevant to the situation of their school: there is an application for Marigold School to offer an International Baccalaureate (IB) program starting in the 2007/08 school year. "The International Baccalaureate Organization (IBO) aims to develop inquiring, knowledgeable and caring young people who help to create a better and more peaceful world through intercultural understanding and respect" (IBO, 2006). The community, thus, had a twofold goal: work collaboratively to improve individual teacher knowledge, and, collectively develop strategies to help students become better learners in preparation for the approaching introduction of the IB program.

The rural counterpart to the MPLC, the SouthWest Saskatchewan Professional Learning Community (SW-SK-PLC), was a group of 10 K-8 teachers from the rural southwest region of Saskatchewan, who for the most part, did not know each other. Although they came from the same school division, they taught in different towns, spread out across a geographic area of 42,700 square km. Having undergone a January amalgamation of school districts from what was until very recently eight distinct public school districts, the region is now a single educational district. One of us (Valerie) worked as a curriculum consultant with the district and was instrumental in creating the opportunities for these teachers to meet both on-line and face-to-face.

During the 2005/06 school year, mathematics was an area within the public school system in Saskatchewan receiving special attention as a result of provincial learning assessments. The school district wanted to support teachers in their learning of math concepts, but was also interested in building a community of learners among mathematics teachers, since teachers often work in isolation in this vast area.

Initially, a large group of 50 teachers who volunteered to be part of a math learning group for the school year met face-to-face in one central community for a math workshop. The workshop included guest presenters before dividing the teachers up into groups of 10 based on a math concept or topic of shared interest. The SW-SK-PLC teachers, with Valerie, chose to focus on the topic of data management as a content area within the elementary mathematics curriculum. Group consensus was that after returning to their respective school communities, individuals within the group would continue to communicate and discuss a resource book being read collectively. This would be done through a protected online discussion board available to teachers in the province. Communicating on-line was new to several of the participants and it posed a challenge for them, as well as to those who were familiar with how to use the discussion boards and other on-line communications technology. Several teachers from this group of 10 were also able to meet face-to-face for one supper meeting in the spring.

There were many layers to teachers' participation in the SW-SK-PLC. Among these, the teachers wanted to learn math concepts more fully, and they had to learn and then practice the use of the on-line communication tools. Additionally, some material was provided to the teachers about metacognition as a basis for future discussions about thinking about themselves as learners. An element of surprise and perhaps perceived as coercion, was that one or two of the teachers had not realized that showing up for the initial whole group math workshop enlisted them for work over the entire school year in a smaller facilitated group.

## Intentions

As educational researchers interested in in-service teacher education, we felt that building the learning communities around a shared framework enabled sharing experiences and also offered a research opportunity across two important contexts for teacher learning: teachers who work together in the same school, and teachers who are separated by distance and local culture. We wanted to explore how teachers made meaning, both for themselves as learners, and in the social context of the professional learning community.

While formal learning communities are becoming more common as venues for in-service teacher learning, they are often organized within school districts as a form of professional development. This is often problematic, for when teachers (or indeed learners) are required to belong to a community as is the case in some current conceptions of the learning community for teacher development, the space for creative engagement may be lost. Since our desire is to enable teachers to work creatively together, we wonder how and if different conceptions of community support this.

In this paper we will review three conceptions of learning communities that include Lave and Wenger's (1991) communities of practice, the DuFour et al.'s (2005) notion of professional learning communities, a model that is very popular in many school districts, and, Davis and Sumara's (2006) description of a learning community as a complex learning collective. We will turn to this review after a brief discussion of several continental philosophies of *community*.

## Why Community?

As humans, we are naturally social creatures. We are already and always part of several communities. We already belong. This belonging includes identity and purpose, and is coincident with and emerges out of simply 'being'. Our 'being' is always in asymmetrical relation to an other, existing only in an originary sociality as communication, an inclining or leaning toward another, without which there is no 'one' and no 'us' (Nancy, 1991). Nancy describes us *as* inclination. This mutuality is elaborated by Agamben (1993) who describes 'being' as not determined by belonging or even unbelonging, but rather names a belonging that is conditioned by belonging itself. In the words of Jean Luc Nancy, "only a being-in-common can make possible a being-separated" (1991, p. xxxvii).

A further distinction should be made regarding Nancy and Agamben's theories of community and that is that they are not about the 'common' character of community—and, in fact, the community that becomes a single thing loses the 'in' of being in-common (Nancy, 1991). Being in common has nothing to do with communion or fusion into one body or even a unique and ultimate identity, but instead, community always exceeds representation. These philosophies of community that place our coexistence before our single existence and collective experience before a learning self, resonate well with our ensuing discussions of learners as collectives instead of individuals.

Out of this relational 'being,' we can begin to understand the nature of learning collectives: learning is influenced by and influences each person, yet doesn't belong to any one person. The kinds of communities described by Nancy and Agamben are not the kinds of groupings that are traditionally thought of as 'community.' Their communities are more primal, more inevitable in some ways, and defined by a complex relationality that defines the law of togetherness as apartness. Our coexistence is thus placed before our singular existence, and collective experience before a learning self. We see the characterization of the learner as the collective to be an important point of departure for our work with teacher learning communities.

Participation in a learning collective is a built-in belonging that represents engagement with the space of the possible. While this form of belonging may initially be an intentional engagement, it does not necessarily involve shared school culture or even a feeling of belonging but rather, it serves to draw individual attention to the coexistence of other beings, ideas and relations. Coherence theories are appropriate here, where the collective is a living system that engages learning not as a matter of filtering knowledge from the outside to build internal models, but instead, is concerned with the continuous reverberating process of updating a collective sense of the world, prompted by new experiences.

While individual teachers may have differing conceptions of what communities are and what they can do, our task as facilitators of learning communities among working teachers, then, was to share various conceptions of learning communities and guide the intensity of our two communities into spaces where, we hoped, participating teachers would engage with each other in meaningful dialogue around issues that were deemed significant by the community, but were also personally relevant for the individual teachers.

## Learning Communities

For teachers working in Canadian schools, professional development (ProD) most often comes in the form of workshops arranged by the school district, attendance at conferences hosted by the Provincial Specialist Associations (in British Columbia) or the Department of Learning (in Saskatchewan), locally developed programs at the school level or through enrolment in graduate programs either on campus or through distance learning. Some professional development initiatives, particularly those at the district or provincial levels, are specific to implementing reforms, perhaps for a new curriculum. The initiative could also be, for example, to introduce a new behavior management system or offer support for technology use in the classroom. In many cases, the notion of professional development is largely instrumental, where a program is delivered to teachers in a transmissive mode with little regard for individual need, desire or particular relevance (Darling-Hammond, 1997).

Much ProD is aligned with conceptions of learning as involving logical and manipulable correspondence between internal associations and external events and in which learning is a matter of putting together an internal representation of the external world. Although current discussions of learner types or styles suggest that some people learn better in certain ways, most ProD is focused on knowledge transfer. These understandings of learning are based on correspondences between mental constructs and physical worlds, thus separating internal/external, self/other, individual/collective and knower/knowledge (Davis, Sumara & Luce-Kapler, in press). They involve knowing already, what it is that is expected from already-determined learners—teachers and students—in advance of the learning experience. We argue that this conception narrows the field. Learning communities offer potential for expanding the space of the possible for teaching practice, by participation, and through the potential for emergence that is inherent in a collective that is an open learning system. Open systems develop and evolve: “life constantly reaches out into novelty” (Capra, 2002, p. 14).

Teachers, as learners, need a space to explore conceptions of learning and teaching, and learning communities have the potential to offer such a space. Space is not something that exists on its own but in interobjectivity or participatory understandings resulting from relationships and interdependencies (Davis, 2004). Since we are always caught up in these relationships, this space already exists but remains undefined until the emergence of a learning system’s latest and ongoing modifications. It is in the space of the learning community where questions can arise that are not just the usual subsidiary types of organizing, clarifying, elaborating, planning and strategizing questions that seem so important in educational institutions focused on communication and information technologies.

Amidst the discourse of technology-driven educational reform (Ferneding, 2003), many of these kinds of questions are not encouraged in formal ProD sessions. Ultimately teachers end up feeling that teaching and learning are already decided and it would be foolish to ask seemingly ‘unanswerable’ questions that focus on philosophy, or inventive or irreverent questions that distort or twist current commonsense, or questions that take us in divergent or emergent lines of flight. However, it is exactly these sorts of questions that professionals need opportunity to not only ask, but

engage with on a meaningful level. We would like to have teachers' engagement in a learning community be such a place. The questions that we have are inclinations, which Nancy (1991) ascribes to our very being. Although the space for being together already exists by virtue of working in a particular school or with each other through communications technology, it is possibly easier for educational institutions to make sure that it does not occur than it is to nurture these collectives.

The learning community is a relatively recent addition to the notion of ProD that comes predominantly from Vygotsky's social theory (1978). Learning, for Vygotsky, is about the individual incorporating into the body politic. More recent conceptions stem from Jean Lave and Etienne Wenger's (1991) description-oriented theory of 'situated learning,' which is concerned with the processes of engaging learners in the application and possible extension of already-established knowledge (Davis, 2004). According to Lave and Wenger, learning is about apprenticing into common knowledge, as learners work with others in the learning community who are more experienced and more expert. For teachers, this is often a part of their pre-service preparation, but rarely does it extend beyond this introduction. Through apprenticeship, learners (in this case, teachers) gradually become legitimate participants through active engagement with the process of learning. Within a community of practice is a site for legitimate peripheral participation by those who are learning to become members of the community. Through participation in the community, less-experienced members learn from their more-experienced colleagues about the situated knowledge of the collective, including the knowledge it holds of itself and the work it does. Developing new knowledge is a dynamic endeavor and certainly not limited to a one-way discussion or transfer of information.

The community of practice has several dimensions: mutual engagement, joint enterprise and a shared repertoire of action, which includes both discourses and tools. The community is characterized by cohesion and shared purposes. Thus, it is important that the group of people have shared experiences and a common language with which to communicate. Implicit in this is that communities of practice must smooth over conflict and inequalities, which may in some ways be an idealization of the actual work of a learning community (Wenger, 1998). So, instead of asking what kinds of cognitive processes and conceptual structures are involved, it may be more appropriate to ask what kinds of social engagements provide an open context for learning to take place.

As active participants in the practices of social communities, individuals construct their identities in relation to these communities. Learning in this context is an evolving, continuously renewed set of relations. Within the situational dynamics of the institution of schooling, Lave and Wenger (1991) view communities of practice as valuable assets. Learning communities are places where members participate fully in all activities of the community, engage and learn collaboratively, each member taking responsibility for supporting the other members' learning (Clarke, Erickson, Collins & Phelan, 2005).

While Lave and Wenger (1991) talk about socialization through the process of learning, Dufour, Eaker and Dufour (2005) conceive of learning communities as more particularized and goal directed. Teacher teams are established with a particular goal in mind, and prescribe a narrow definition for what constitutes the community and

its work. Prescription for a particular end is consistent with contemporary political agendas for assessment of learning that may encourage simplification in order to control. Learning, and indeed, teachers, can be unruly objects. The Dufour version of a learning community places teachers together in what is supposed to be a culture of collaboration to ensure that students learn. This collective purpose for learning maintains a behaviorist approach with a focus on observable results in order to raise student achievement. Learning is made public, both that of the teachers and that of the students, as school tables and rankings are made public. Teacher teams **MUST** adopt student achievement goals linked with school and district goals, according to Dufour et al. The learning community then welcomes data, which is turned into useful and relevant information for staff. In this context, data must be compared to that of other students as well as other teachers, classrooms and schools. This conception of a learning community ironically supports a Cartesian subject in which learners are in competition with each other and learning is separated from the real world. According to Richard DuFour (2004): "We must stop limiting improvement goals to factors outside the classroom such as student discipline and staff morale and shift their attention to goals that focus on student learning" (p 11).

We view this notion of learning community as an instrumental and disempowering structure for teachers, since in the context of this type of community, only 'strategic' questions can be asked, thus limiting the nature of discussions, the level of discourse and even potential for collective involvement and meaning-making among those within the community. According to this model, the system generates data that is to be used to inform teaching practices and public representation. This is a very narrow meaning for 'learning,' one that focuses primarily on the work of teachers.

We choose to adopt Davis and Sumara's (2006) notion of teacher communities as complex learning systems. According to Davis and Sumara (2004), learning systems are "defined as self-transformative recursively elaborative phenomena that are nested" (p. 5). Davis, Phelps and Wells (2004) tell us that complex forms are: dynamic; evolutionary and adaptive; spontaneously organized, where interactions among individual agents give rise to coherent collective action; and, emergent. Further, they are "webbed, multi-threaded tales and nested, scale-independent geometries" (p. 4) that allow more intricate and densely packed forms to develop as a result. Teachers' knowledge of who is being taught (and the goals of teaching) emerges out of the situation, and is thus flexible and contingent (Osberg, 2005). This means that learners within the learning systems are part and parcel of the complex organization, giving the organization the potential to be adaptive to emergent conditions, while maintaining an overall stability at the level of the whole group. We want to further explore Davis and Sumara's ideas of learning communities as complex learning systems and how they apply to our specific contexts.

Complexity thinking as an umbrella notion applied to learning encourages us to look across a range of coherence theories, including constructivisms, constructionisms, cultural and critical theories and ecological theories because education is "transphenomenal" and so requires "transdisciplinarity." Extending the notion of a learning community through a complexivist sensibility will help us to better understand the work of teachers, their own agency in effecting change and the greater possibilities inherent in a community envisioned with such sensibilities.

Derrida describes communities as “not constituted on the basis of contemporaneity of presences, but rather through the opening produced by...allegoresis” (in Gaon, 2005, p. 389). We interpret this to mean that by telling the stories of the particular learning communities that we worked with and by making some meaning by connecting the communities’ processes of emergence to ideas of complexity thinking, we will extend that opening that constitutes communities that learn together.

## Framing the Teacher Learning Community as a Complex Learning System

Perhaps a short examination of the functioning of a teacher learning community in terms of complexity theory can help to unpack some of its features and see how they function within and outside the community. The presence of these features, however, does not guarantee that the system can accomplish all of its goals or indeed, be complex. Learning systems are a special subset of complex forms and as Doll (1993) suggests, are like biological systems rather than the traditional modernist view of learning that “is based in fragmentation, isolation, atomization—not on the flowing experience” (p. 69). While Doll refers to curriculum in his description of learning systems as complex, we believe his analogy to biological systems is apt relative to the functioning of the learning community and its teachers as learners. The notion that learning systems are highly fluid and open is important for this paper. Learning is about expanding the space of the possible, for the collective and for the individuals within it. This is where creativity and engagement open into new and exciting ways of being together. Further, Davis and Simmt (2003) and Clarke et al. (2005) view learning systems as comprised of several features including internal redundancy, internal diversity, decentralized control and neighbor interactions. Elaboration of these features will help us to better understand how complexity thinking can ground the composition and functioning of these complex learning collectives.

### Internal redundancy / diversity

*Internal redundancy* as a necessary element in a complex system means that any particular characteristic is present in multiple copies. In terms of a group of teachers in a learning community, each of the teachers brings experience with the same groups of students, similar cultural knowledge of the school and the surrounding community, and a working knowledge of the philosophy of the school itself, if the teachers work in the same school. In some ways, these various understandings are overlapping, which Hargreaves (1995) has warned can lead to conformism. But, even if there is a sense of shared understanding, the background that each person brings to the community is different, hence can give rise to new interpretations.

Additionally, a common language is needed, where individuals within the community have understandings that can be shared. This has most frequently been interpreted as a common goal. For example, *The Project for the Enhancement of Effective Learning* (PEEL) advocated the need for a common goal (Baird & Mitchell, 1986; Loughran, Mitchell & Mitchell, 2002), which can serve as a focal point for discussions and ultimately, action. But we must be cautious, because such a focus

can shut down emergence when a task focus is the only locus of attention. In other words, when the particular problem is solved (or, worse, if it becomes intractable), the work of the community is finished.

While some level of similarity or redundancy within the structure of a complex system is needed, just as important is *internal diversity*. Each individual in the community is unique, having different experience levels, educational backgrounds, subject expertise and expectations, among others. Further, our participating teachers each belong to many communities (different subject areas, interests, agendas, etc.) Each of these has the potential to contribute in meaningful ways to the work of the community, since the diversity represented by individuals means that varied perspectives can be brought to bear on any given issue, and indeed space must be created for different ideas and agents to interact. In-person meetings for the MPLC and on-line communication in the SW-SK-PLC enabled such interaction. The system itself thus has an intelligence that becomes a part of the collaborative process, since difference creates the space for generation of new ideas. Of course, the new ideas and thinking generated need opportunity for expression through structures that enable this.

### Decentralized control

Control structures are also important aspects of a complex system, but they are not the types of control usually found in mechanical systems. Complex learning systems have *decentralized control structures*, so that leadership and responsibility for the group are distributed. This allows for interactions among the components of the system without hierarchical rules or forms (which may cause specified, even linear action) and enables more fluid and dynamic interactions, as long as individuals accept shared control and responsibility within the distributed system. The proceedings are not directed. Rather, the interactions among the members of the community are left open to the decision-making and direction of the group as a whole in a sort of distributed leadership model. This creates its own problems for people unaccustomed to engagement under such a model, and can be seen as contrary to a more traditional model of teacher professional development. Indeed, the group that is the learning community was likely initiated by particular individuals, who must at least at first, make a deliberate effort not to lead. In the MPLC, this lack of central leadership was resisted. Participating MPLC teachers were more familiar (and comfortable) with top-down models of ProD and administration and were troubled by the openness of a system without an initial focal direction or designated leader. This was resolved through identification of group concerns and long discussions over directions for the group that included consideration of what it means to be a member of a learning collective.

### Neighbor interactions

Any system works nested within other levels of systems. Learning community teachers are also members of their respective home and school communities, subject specialty departments, coaches of athletic teams, sponsors of school clubs and events,

members of the wider teaching staff and larger professional and social communities. These *neighbor interactions* inform our understanding of the important relations between students and teachers, students and the curriculum, teachers and their colleagues, as well as teachers and parents (Burris, 2005). The interactions are also the place where ideas bump up against each other. For the MPLC, the interactions were daily, face-to-face encounters with each other and members of the extended community of people at the school. For the SW-SK-PLC teachers, the various communities to which they belonged had little or no overlap with the work of the learning community. Instead, their interactions were facilitated through an on-line technical medium and only the occasional face-to-face meeting. The important point is that the community creates space for individual people, ideas and experiences to meet. Communities come voluntarily together around common interests, but in coming together, nobody knows what will happen. The interactions are made more unpredictable and novel, because this coming together happens differently as a direct result of the various individuals involved.

### Complex Emergence

Through points of contact, particular pieces of information take on new relevance. How the points of contact are organized is important. We noticed several points where conditions seemed to be in place for complex emergence. In both of our communities, these were different, as might be expected.

For the teachers of the SW-SK-PLC, being face-to-face was a novelty. The teachers, in their occasional dinner meetings, drove great distances to be in the same physical space; they shared meals together and arranged reciprocal classroom visits to maintain contact with one another. These teachers sought connections. Also among this group were individuals who did not want to be part of this learning community. This right to disengage must be honored: one particular teacher felt that her involvement with her own school community was more important to her. Other very real issues involving an already-busy-enough life were more significant. Hence, she felt it necessary to disengage with the version of community offered by the SW-SK-PLC. She may have adroitly deemed that her learning needs were not going to be met by this group. We are left wondering what kinds of learning structures would have been more helpful or supportive for her.

The SW-SK-PLC group had chosen a particular mathematics concept as a focal point for its work together. Ultimately, this discussion ran its course, and the group seemed to lose steam although the connections that were made played out in other ongoing collaborations and groupings of learners. This seems to suggest that multiple, even overlapping notions of learning ought to be incorporated into the work of the community. Learning about particular aspects of curriculum seems to be somewhat limiting, for when the group feels that concepts are clear, the reason for the group dissipates. A reconceptualization of teacher learning as on-going development of teacher thinking and learning may be a wide enough conception and is something we would like to explore further in the future.

The MPLC tried to invoke teacher learning, on a grander scale, as a goal of the community, although particular, shorter range goals were also developed. In a way,

this added complexity to the organization of the group, but it also enabled the group to survive after the failure of an attempted introduction of a school-wide innovation proposed by the group. Without devoting too much space to a discussion of this failed innovation, suffice it to say that the implementation required wider acceptance than was possible given the fact that only six of the school's teachers were involved in its development. Perhaps if other communities of teachers within this school had come to decide the need for the innovation, then perhaps it may have been possible to implement. As Fullan (1999) tells us, change happens when those involved decide there is a need for it.

Those in the MPLC felt that the community offered opportunity to think carefully about themselves as teachers, their students as learners and the responsibility they have to one another, and that it was a fruitful and positive learning exercise. This overall sense, from the perspective of a participant-observer in the community discussions, emerged through the year of working in the MPLC. Further, individual discussions with participating teachers emphasized these key points. The concept of teachers as learners clearly has merit. We see the learning community as a complex learning system as a generative and exciting space for teachers to better understand their own work and to extend the space of their own possibilities for the work they do.

### Unintended/Unanticipated Outcomes

In considering the complexity of learning and relationships and communities, we have stumbled upon things that we couldn't name. We have been part of learning collectives that took sudden turns in directions that we hadn't anticipated and couldn't quite articulate immediately. This may be the 'pre-sense' of which Madeline Grumet (2007) spoke, but lacking the language. There is an embodied, intuitive understanding of the sense of things as they are, but our language limits our ability to talk about this. We are also limited by our own and others preconceptions and enculturated views of teacher professional development. 'Teacher talk' can be seen as unproductive dissatisfaction on one hand, but in important ways, it has the potential to be generative within a structure that supports co-elaboration and collectivity. Harmony results in solved problems, satisfied existence and ultimately, silence. Nancy (1991) writes that true communion is death. Rather, it is discord or fracture that leads to adaptive response. Herein, collective choices to build personal meaning and connections between individuals expands the space of the possible.

### Implications for Teachers

Since people have always organized themselves into small groups based on similar interests, interpreting teacher learning communities as learning systems is more about re-description than re-structuring. So, while interests bring people together, through interaction, something else emerges. Our ability to put language to this is limited: the language of complexity can help.

Fritjof Capra (2002) writes about how complexity thinking offers us an opportunity to model human interactions after nature's ecosystems without having to

invent the models ourselves. The invention comes as we add language and join in as participants. Learning in a community is not so much about learners acquiring structures or models, or building institutions as structures. Rather, learning is about participating in frameworks that have structure (Smith, 1999), which creates conditions for emergence. These structures must not be overly specified. The focus must be kept open (and not too particular). Likewise, the communities cannot require belonging.

We envision the learning community as a space to make sure ideas don't get shut down. It is not about imposing "improvements," but rather, about helping and sustaining spaces of new possibility. This counteracts the language of inevitability (since directional focus shuts down alternative discourses) and instrumentalist views of teaching/learning, which is a necessary step forward for us to re-envision teachers' work in a changing world.

The community cannot be just about acquiring knowledge, because everything matters in teaching and learning. Collective activity and knowledge emerge organically from a mass of interactions, not predetermined by consensus. Instead it is in the process of emergence that new knowledge develops (Ferneding, 2003). Within a community as a collective, teachers have an opportunity to discover the possibility that exists for them in the situation in which they find themselves. Ultimately it is probably easier to shut down communities than to enable them to be complex entities, and it may be similar to the parallel Davis (2004) has drawn to the various constructivisms: they tell us what not to do. This suggests the need to not specifically define 'community,' but rather, to keep it more open, more expansive.

Dewey wrote that the aim of education is that all may share in a common life. More recent literature regards learning in groups as enhancing the quality of social networks (Smith, 2001). Davis and Sumara (2006) write that teaching requires learning how to become involved in the complex site of the school and the community. We could fruitfully extend this idea to suggest that learning is about learning to 'be' in many communities, as well as to recognize overlapping connections and participation in several nested communities.

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