

Cultivating a Community of Practice Among Itinerant Educators

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Abstract

Itinerant educators servicing non-public schools reported a desire and need to have more opportunities to collaborate with each other on a regular basis. These isolated educators readily acknowledge the importance of connecting with each other for the purpose of sharing their common practice. Despite the fact that the educators see a community of practice as a valuable resource and vehicle for improving their own practice, the actual resulting collaboration and cultivation of the community among a small volunteer group was unproductive. To answer the research question, "How can virtual collaboration tools provide a foundation for cultivating a community of practice among groups of itinerant educators?" a series of action cycles was developed and utilized as a means to encourage the cultivation of a community of practice among the members of this staff. The information from these cycles includes factors influencing educator participation, the purpose participants choose to participate, and information pertaining to the evolving stages of community development.

Purpose and Rationale

The purpose of my action research was to discover ways to cultivate the emergence of a community of practice that engages participants in thinking about education, technology, change, and our role(s) in providing auxiliary services to non-public schools. A central theme that framed the interactions was educational technology. I used both virtual and face-to-face collaboration efforts to assist me in this adventure. I utilized this emerging community of practice to develop an understanding of our unique organization, the desired opportunities, needs, barriers, and challenges.

Workplace Context

The Montgomery County Intermediate Unit may be classified as a Learning Education Agency (LEA) that functions at a level between the Pennsylvania Department of Education and the local school districts in the county. This agency encompasses all school districts within the county and provides resources and leadership for these schools. Some of the services that the organization provides includes special education services, technology services, leadership training, professional development, business services, media services, and consulting services. Within that organization, the Non-public School Services Division (NPSS) provides services for non-public schools

through the allocation of state and federal provided funds (one of only two states that receive public funding for non-public instruction). The NPSS division provides remediation (reading and math) services along with other auxiliary service.

The NPSS division serves 185 non-public schools with an approximate enrollment of 35,000 students. These schools comprise both religious-affiliated school and independent non-religious affiliated schools. This provides a challenge for educators as these schools operate independently from each other with their own framework of operation. The NPSS staff work with the principals of each school to customize the services we provide to match the needs and mission of each school. This is quite challenging for staff members who service multiple schools with a diverse set of needs, requirements, and constraints. The itinerant educators typically travel between two different schools on any given day. Total number of schools serviced per staff member can range from 4 to 10 schools in any one week.

The itinerant staff members have been constrained by both time and location making it difficult for them to connect, collaborate, and share professional and personal knowledge with each other, supervisors, and the schools they serve. Staff members report feeling disconnected from each other given they have relatively few opportunities throughout the year to collaborate and share. New itinerant staff members lack the ability to connect with more experienced members on a day-to-day basis to assist them in moving to the center of the professional community. These educators typically operate individually from their own knowledge rather than from a collective knowledge base. Working on committees or in small groups is location prohibitive. The tremendous wealth of expertise and experience is difficult to tap by others because of the distributed nature of this division.

Literature Review

Our current model of education has been founded on the assumption that learning is an individual process with a beginning and an end. Current practices separate learning from the rest of our activities. Competition is prevalent in many classrooms and the transmission of knowledge from teacher to learner is seen as the most efficient method to educate our youth (Wenger et al, 2002). An educational model based on transmission of knowledge can no longer sustain a society where rapid change and knowledge acquisition occur so quickly that individual mastery is almost impossible. Organizations and companies today expand and enlarge at such a rapid pace that it is no longer possible to even buy a colleague a cup of coffee to learn the things you need to know (Powers, 2004). In today's society, collective knowledge is needed to compliment and develop expertise. To be effective, people must work as a community combining the needs of organizations and members. This is crucial

in a knowledge economy, where companies and organizations succeed by fully engaging the creativity of their employees (Wenger et al, 2002).

As educators examine current learning theories, cultural values, and beliefs, they are discovering that the current educational system will no longer be able to address the needs of students entering the workforce of the 21st century. Learning is a fundamentally social activity—whether in schools, workplaces, or other environments. It is going on all the time, often through the informal interactions we have with different people everyday (Graham 1998). In this light, a new model of learning has emerged that promises to leverage knowledge sharing, learning, and change--Community of Practice (Wenger, 2000).

By creating small learning units within schools, leaders can support teacher professional development that promises to produce a transformational effect on student achievement (Bloom, 2004). As noted by Bloom, the idea of smaller learning units within larger learning communities is not new. The smaller units create a culture of closeness and personal connections, both of which are conducive for growth and risk-taking. Communities of practice consist of members who share concerns, problems or passion for a common topic. Additionally they share a desire to deepen their knowledge through continued interaction over time (Wenger et al, 2002). Communities of practice provide one model for creating the smaller learning units that Bloom suggests help provide support for professional development among teachers. Through a community of practice, learners are situated within a context of practice. They have an opportunity to practice authentic tasks resulting in problem resolution and learning (Dunlap, 2004).

We know more than we can tell. The tacit aspects of knowledge are often the most valuable. This tacit knowledge consists of a deep understanding of complex, interdependent systems that enable dynamic responses to context specific problems. Knowledge of this type is difficult to replicate. A community of practice provides opportunities for interaction and learning processes that tacit knowledge requires. Their dynamic, informal or formal nature places them in the best position to combine useful documentation, tools, and procedures along with tacit knowledge such as storytelling, coaching, and apprenticeship. These artifacts are more meaningful because they are not objects; rather they are a part of the community (Wenger et al, 2002). Communities of practice evolve into resources where members can get immediate help with problems, can create better solutions and make better decisions, and keep current in their field. Members are willing to take risks and “think outside the box” because they have the support of the community. Perhaps most importantly, they accumulate their experience in a knowledge base, and the intangible value of increased ability to innovate (Wenger et al, 2002). Communities of practice connect the personal development and professional identities of members to the strategy of the organization.

Cultivating a community of practice is a difficult task. They cannot be mandated or created, but they can be coordinated, facilitated, and cultivated (Wenger et al, 2002). A community of practice cannot be managed, as it takes on a life of its own—a living organism so to speak. Many examples illustrate that a community of practice frequently defies management. The difficulty of managing knowledge is that it is not an object. As Wenger noted, it cannot be owned or moved like an object. It resides in the individuals and their relationships as well as in the artifacts. A key to designing a community of practice is to bring the right people together, provide an infrastructure in which they can thrive, measure the communities' value in non-traditional ways, and encourage the development of social fabric among the members (Wenger, 2000). Learning will happen whether it is designed for or not. The key task is to design a social infrastructure to foster learning. Sustaining a community of practice and integrating it into organizations is not easy. Wenger suggests that a community of practice is similar to living organisms and as such are resistant to interference.

Before attempting to cultivate a community of practice, Wenger suggests an examination of goals. What do you hope to accomplish? Are you trying to build relationships among people and practice? Are you interested in connecting people with common interests? He points to the importance of understanding the goals (Wenger 2002). Much of the research suggests that members may be either self-selected or assigned, however participation is voluntary. Individual members determine their own level of engagement. Wenger noted that people often need prodding to discover the value of learning in a community. Becoming familiar with the three levels of participation that Wenger noted are evident in any community of practice can assist in the process of cultivation of the community and provide the necessary diversity needed for a wide diversity of members.

There are three levels of participation evident in a community of practice: the core group, the active group, and the peripheral group. Each fulfills an important role:

- The core group is small and active in the community.
- The active group attends the meetings, but only occasionally participates in discussions.
- The peripheral group does not necessarily participate directly, instead preferring to watch for a distance. Peripheral groups do benefit from the community as they learn from observing, listening, and watching the active and core groups.

It is important to provide for all three levels of participation within a community of practice. As noted earlier, cultivating a community of practice is not an easy task; therefore, making opportunities for semiprivate interaction is an

important key for cultivation. In this way, you can provide for varying participation levels (Wenger et al, 2002).

If cultivating a community of practice is such a challenge, how does one accomplish such a task? One such element necessary in the cultivation of a community of practice is the role of a coordinator(s). Coordinators help to cultivate a community of practice when they organize events and connect community members. They discover who talks to whom about what topics, issues of importance, obstacles and barriers. One method of discovering this information is through informal network analysis. A key role for the coordinator is to help the community focus on its domain, maintain relationships through networking, and develop its practice (Wenger et al, 2002). However, even the best coordinator(s) still needs to provide a reason for members to stay engaged in the community. Staying focused on the reasons why the community has been created will help the coordinator(s) provide value to the members.

By focusing on current problems and issues of members, a community of practice can provide early value. It is important to allow value to emerge through the events, activities and relationships that develop. Coordinators should strive to keep events both familiar and exciting. This duality creates a tension that keeps the community interesting (Barab, 2003). "A combination of whole-group and small-group gatherings creates a balance between the thrill of exposure to many different ideas and the development of more intimate relationships." A mix of idea-sharing discussions and forums and tool building projects fosters both causal connections (Wenger et al, 2002). Through this focus on value and relationships, communities of practice can provide a frame for both development of new and continuation of existing professional development opportunities. As a professional development venue, the community of practice can provide members with the opportunity to put knowledge into practice through engagement within a community of practitioners. Viewing professional development and communities of practice as socio-organizational system requires communication and close cooperation among members (Schlager, 2003).

The design of a community of practice should be such that the community's own internal direction, character, and energy can be realized. Design for evolution, diversity, value, public and private interaction, familiarity, excitement, and rhythm. The heart of the community is the relationships among members. Work the informal "back channels" by encouraging communication among members between meetings (Wenger et al, 2002). Remember that cultivation is more about eliciting and fostering participation than planning, directing, and organizing their activities. The process has to be one of negotiation. You cannot act unilaterally. Your power is always mediated by the community's own pursuit of its interests (Wenger et al, 2002). With this in mind, it makes sense to cultivate your community of practice around domains rather than tools. It is the domain that will matter and that will attract

members (Kling, 2003). In this way, technology needs to be structured technically, socially, and sociotechnically. This approach will provide necessary interactions and social behavior in an integrative manner (Kling, 2003). A community of practice, just as in any groups, will produce its own norms, purpose, accessibility, and expectations.

All communities of practice share the same basic structure: “a domain of knowledge which defines a set of issues, a community of people who care about the domain and a shared practice that they are developing.” (Wenger et al, 2002):

- The domain provides common ground and common identity.
- Community fosters interaction and relationships based on respect and trust.
- Practice consists of the frameworks, ideas, tools, stories, and documents that are shared.

When all elements function, the community of practice becomes an ideal knowledge structure—“a social structure that can assume responsibility for developing and sharing knowledge.” (Wenger et al, 2002).

All three elements of a Community of Practice are equally important. The work of identifying a shared domain is critical to development. Important questions in this area are “What topics and issues do we really care about? How is this domain connected to the organization’s strategy?” (Wenger et al, 2002). The community itself will need attention, organization and nurturing. Important questions in this area are: “What roles are people going to play? How often will the community meet? How will members connect on an ongoing basis? “This attention enables the community to grow (Wenger et al, 2002). Finally, the practice consists of identifying “What knowledge to share, to develop, and to document? What kinds of learning activities to organize? How should the knowledge repository be organized to reflect the practice of members?” (Wenger et al, 2002).

Developing all three elements is a balancing act. Each element requires specific development attention and work. However, all three interact and it is that interaction that makes a healthy, vibrant community. The elements are dynamic and in a constant state of evolution. While dynamic, it is important that all three are not in flux at the same time as this will put the community at risk. One strategy for developing community is to use the synergy between domain, community, and practice to help a community evolve and fulfill its potential (Wenger et al, 2002).

The Web Resource Collaboration Center, a tool designed to let users collaborate and design their own resources, developed three functional areas for community use: The Discussion Forum, the Link Manager, and the Resource

Construction System. The impact of this design is in the purposeful use and integration of these tools (Dunlap, 2004). Each tool assists in creating synergy between the elements. Discussion forums provide a means by which learners encounter a variety of ideas, solutions and perspective through collaborative interaction. In order to contribute to the communities of practice, learners must express and elaborate their own understanding (Dunlap, 2004). Learners ask questions based on their own goals and needs. They reflect on what they do or do not know. The discussion forum provides a way to capture the "Here's what I did" (Dunlap, 2004). The Link Manager allows learners to build the community resources collaboratively. They collect and annotate resources based on their needs. In this sense, the building of knowledge is a collaborative process. Learners add to the link manager, they decide what is included or excluded from the resource. In this way, learners reflect on the usefulness of the resources (Dunlap, 2004). The Resource Construction Center provides an opportunity for learners to work together to build new, unique resources. These resources are based on the needs of the learners. Combining the technology of document sharing and asynchronous threaded communication to create an environment in which learners collaboratively develop resources (Dunlap, 2004). The combination of these tools provides members with a variety of methods for participating in the community.

In providing for varying levels of participation, chat technologies must be considered. Chat opportunities are important in fostering both event-oriented exchanges and impromptu exchanges in which members can connect with one another. Chats function are the virtual counterpart of traditional structures such as offices, conference rooms, etc. Chats facilitate the holding of office hours, question and answer sessions, group discussions, etc. (Adams, 2003). User profile pages provide the opportunity for members to share information about their interests, education, skills, etc. Additionally, they can help members by providing the ability to preview a member's background and experience with various topics, they can help members to locate specific expertise in the community, and they can assist in the negotiation of meaning by providing credentials, experience, and background on individual members (Adams, 2003).

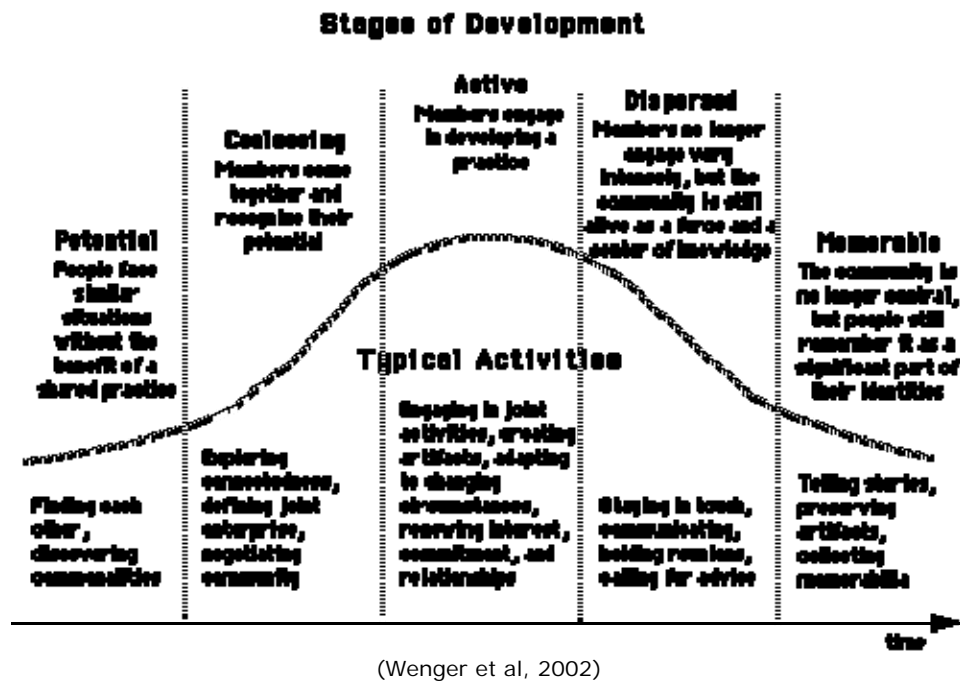
When cultivating a community of practice, it is important to know and prepare for the transitional stages that occur throughout cultivation. Communities of Practice continually evolve through five developmental stages: potential, coalescing, maturing, stewardship, and transformation. While starting as an informal loose network, they hold the potential of becoming more connected. It is the connections themselves that assist the informal network in coalescing into a community of practice. As they evolve through these stages, the activities needed to develop them also change. A coordinator cultivates the community through discovering who talks to whom about what topics, the strength of various relationships, and obstacles that might impede knowledge

sharing and collaboration. The coordinator helps the community to focus on its domain, its relationships and its practice (Wenger et al, 2002).

Potential Stage

The first stage, potential stage, begins with the informal loose network. Often people begin networking around an important topic. These are the people most likely to form the core group of the community. Important activities at this stage include providing various means for the community to connect with each other. As a sense of shared domain develops, the need for more systematic interactions emerges and generates interest. Each element has several issues to consider at this stage: define the scope of the domain, find people who already network on topics, and identify the common knowledge needs of the potential community (Wenger et al, 2002).

Community of Practice – Stages of Development



Coalescing Stage The second stage, coalescing begins when the community is officially launched through various events, and community building activities. It is critical to initiate activities that encourage relationship building, trust and common interests and needs. The key issues for each element in this stage: establishing the value of sharing knowledge, developing relationships and trust to discuss “sticky” practice problems, discovering what knowledge should be share and how this should be accomplished (Wenger et al, 2002).

Maturing Stage

The third stage, maturing, occurs when the emphasis shifts from establishing value to clarifying the focus, role and boundaries of the community. While physical growth is a challenge at this time, a shift from sharing tips to

developing a comprehensive body of knowledge expands demands on community members. The key issues for each element in this stage: defining the community's role in the organization, managing the boundaries of the community which has expanded beyond a network of professional friends, organizing the knowledge of the community and taking the stewardship seriously (Wenger et al, 2002).

Stewardship Stage

The fourth stage, stewardship, occurs through sustaining momentum through the natural shifts in practice, members, technology, and relationship to the organization. Key issues for each element in this stage: maintaining relevance and finding voice in the organization, keeping the tone and intellectual focus lively and engaging, keeping the community on the cutting edge (Wenger et al, 2002).

Transformation Stage

Stage five, transformation, is defined as the tension between the sense of ownership and the community's openness to new ideas. This tension is never fully resolved. As a community expands, it also risks diluting its focus. When a community closes its boundaries, it risks suffocating itself (Wenger et al, 2002).

As I have noted in this review, communities of practice can produce excellent outcomes for their organizations, but they also can produce negative outcomes as well. Several challenges include the reluctance of teachers to engage in inquiry or dialogue that critiques their own practice or that of their peers. Research has cited the importance and difficulty of building trusting and respectful relationships across school departments (Schlager, 2003). Craft intimacy can create barriers that prevent newcomers from becoming accepted. In this sense, the community can become an ideal structure for avoiding learning. Pride of ownership, too much community, and the complexity of interrelationships can undermine the positive aspects of communities. It is important to continually reflect on the community's functioning and be watchful for these developments (Wenger et al, 2002).

Methodology and Methods of Inquiry

In this action research I employed a qualitative methodology to facilitate inquiry into the complex and multi-faceted ways that people interact with each other when forming a community of practice (Stringer, 2004). This approach provided insight into the social constructed human behavior that is the essence of communities of practice (Stringer, 2004). The collection and analysis of a variety of data types provided a rich and meaningful picture of the emergence and cultivation of communities of practice (Leedy et al, 2005). Methods of inquiry included the collection of observation records, informal and formal

interviews, and artifact and document collection. These formed the key features of the inquiry. The raw data was systematically encoded into a variety of categories and themes as a way to facilitate synthesis and interpretation. A interweaving of data collection and analysis formed the basis for discovering and relating findings to theory (Leedy et al, 2005).

The data gained from the four action cycles provided a framework for understanding the dynamic nature of the process of cultivating a community of practice. Data was gathered from the following sources:

Observations:

During the course of the final action cycle, I employed observation as a primary method of data collection. Observing the participants during two scheduled activity sessions, at 15 minute intervals, allowed me to record both their engagement and participation in collaborations with other participants.

Conversations and Interviews:

Conversations and interviews occurred in both formal and informal situations. Informal conversations occurred before, during, and after activities. The content of these conversations were recorded in a notebook as a means to gain insight into issues, concerns, and attitudes of the various group and staff members. Formal interviews occurred through solicitation of feedback following several of the activities. Participants were asked to respond to several feedback questions and prompts related to the activities. Responses from both the formal and informal conversations were recorded in a variety of ways: email messages, response cards, and a notebook log.

Records and Documents:

Records from discussion threads and online chat transcripts were another source of information and data analysis. Participant responses, knowledge sharing, and community-building interactions provided opportunities to document and assess the current state of cultivation of the community.

Coding and Analysis:

As I collected, analyzed, and reflected on the data collected, I found common themes and recurrent events evident. The themes of value and trust continually dominated both my research and the success of the activities. These recurring themes caused me to re-evaluate my actions and adjust my thinking throughout the cycles. It was the process of the coding and analysis that assisted me in developing both insight into the processes of cultivation and strategies for facilitating that cultivation. I used simple methods of coding and categorization such as tally sheets, charts, and color-coding. The results of the categorization were summarized into tables to facilitate synthesis.

The data collected during Cycle One was categorized into four broad themes (Connaghan, 2005):

1. staff valuing the idea of a community of practice within the workplace
2. staff interested in online professional development
3. staff interested in virtual collaboration
4. staff interested in participating in this action research project

Data collected during Cycle Two provided an opportunity to gain insight into the attitudes of the participants related to engaging in dialogue, being open to new educational technology, and the perceived barriers to both (Connaghan, 2005). The feedback was gathered through an email questionnaire and included the following questions:

1. How helpful was the activity, "Opportunities Bubbles?"
2. Was the activity helpful in opening up discussion among the group related to technology?
3. Did the "Bubbles" pique an interest in your small group in new and emerging technology for learning?
4. Do you feel it is important to continue to explore and develop ideas for managing time and demands on your time?
5. Do you think that technology can play a role in developing flexible methods of collaboration within the division and disciplines, and with those outside our organization?
6. Did the use of the Educational Horizon Map and materials result in an interest to explore new tools for learning and a willingness to share those experiences virtually?

Participant responses were coded using simple yes and no indicators.

A second method of collecting data related to the participant's use of Tapped In. This data was collected through an analysis of the features available in Tapped In and the participant's use of those features. This was accomplished through a visual survey of the features used by each participant in their individual Tapped In offices. The following features were tracked:

- office creation
- office customization
- addition of files
- notes created
- discussion threads created
- whiteboard use

A third method of collecting data referred to the use of the NPSS group room discussion threads. The topics of each thread, the number of posts, the number of participants, and the dates of participation were recorded and placed in chart form. Analysis of this information provided insight into both the culture of the group, the formation of core members (if any), and the level of collaboration occurring within the group.

Cycle Three data collection consisted of an analysis of the online discussion threads and chat transcripts of the SIGTC group (Connaghan, 2005). These were categorized by the type of interaction:

- Link/resource sharing
- Knowledge sharing
- Community building
- Group interaction

Each “live” event was categorized in the same manner as discussion threads. Attendance records were coded to determine the popularity of the various events, chat attendance was logged for both SIGTG group members and non-members, participant roles in their individual workplace were recorded, and activity preferences related to asynchronous/synchronous were noted.

Data collected for Cycle Four consisted of observation tallies and participant interaction tallies (Connaghan, 2005). Observations occurred at 15 minute intervals documenting whether the participant was actively engaged. Participant interaction was charted using a numbering system to show what interaction/collaboration occurred and with whom. Finally, informal comments made by participants before, during, and after the events were recorded in a notebook.

Actions

My overarching research question centered on the use of virtual tools to encourage and promote the cultivation of a community of practice among groups of itinerate educators. This story is an evolving process that begins with one group of educators, moves to another group, and returns to the first group. It is a story of compare and contrast as a means to make meaning of social behavior and interaction. It is a story of the cyclic nature of action research and the resulting learning that occurs through the process of self reflection.

Through a series of four (4) cycles, I attempted to cultivate a community of practice. Cycle One asked the question, “If I invite staff members in my workplace to participate in my quest to cultivate a community of practice by describing the potential value, will this develop a sense of interest and encourage their participation?” (Connaghan, 2005). The focus of this cycle was to determine the level of interest among the educators of the NPSS division in cultivating a community of practice. My objective was to determine current workplace attitudes and needs related to collaboration through the development of a survey (see Table 1.1). The survey provided a snapshot of the staff, their technical skills, their attitudes related to technology and learning, and issues and concerns within the division. As a new member of this organization, the survey provided me with a “big picture” of the division. Through an analysis of the surveys, I was able to identify staff members who

were open to the idea of a community of practice and open to participation in its cultivation.

Table 1.1 Survey Snapshot Results

Survey Snapshot Results*	Interested	Not Interested	Maybe	No or Other Answer
Values the idea of a community of practice	62	0	0	0
Interest in online professional development	23	22	21	1
Interest in virtual collaboration	43	17	9	1
Interested in participating in this action research project	8	16	25	13
<i>Total surveys submitted = 62 Respondents were allowed to choose multiple responses or omit responses to survey items. Consequently, the above items may total more or less than total surveys submitted</i>				

(Table 1.1)

Once identified, personal invitations were delivered via email to those interested in participation, and plans were developed for our first meeting activity. Data collected via the surveys indicated the staff members were open to collaboration and the idea of cultivating a community of practice. Additionally, through an analysis of the data collected, I was able to identify several key barriers that hinder collaboration across the division: time, location, and connectivity.

Cycle Two explored the question, “If I provide time for face-to-face structured dialogue and instruction using virtual collaboration tools, how will the participants choose to use both the dialogue and tools to enhance their own practice?” (Connaghan, 2005). Through this action step, I was able to gain insight into the personalities of group members, their strengths, their skills, and their concerns. This cycle provided an opportunity to design a face-to-face meeting that would serve as an ice-breaker for the members while at the same time provide opportunities for the participants to engage in dialogue related to technology in education. The goals of this cycle was to use conversation starters related to technology to spark dialogue among the participants and provide an introduction to Tapped In, our central collaboration tool for virtual communications. Using the Educational Horizons concept map developed by Grove Consulting for the U.S. Department of Education, I was able to generate dialogue among the group related to emerging technology, current educational technology opportunities, and the future look of education given the impact of technology. Several common concerns surfaced among the participants: time constraints, technology skills, and connectivity issues (See Table 2.1).

Table 2.1 - Future of Technology – Opportunities Bubbles Activity

Future of Technology - Opportunities Bubbles		
	Yes	No
How helpful was the activity, "Opportunity Bubbles?" Was the activity helpful in opening up discussion among the group related to technology?	4	4
Did the "Bubbles" pique an interest in your small group in new and emerging technology for learning?	8	
Do you feel it is important to continue to explore and develop ideas for managing time and demands on your time?	8	
Do you think that technology can play a role in developing flexible methods for collaboration within the division and disciplines, and with those outside our organizations?	8	
Do the use of the Educational Horizon Map and materials result in an interest to explore new tools for learning and a willingness to share those experiences virtually?	6	2

(Table 2.1)

These challenges provided the springboard for introducing the group to Tapped In, a multi-user online campus metaphor tool that allows educational professionals opportunities to collaborate in unique and user-friendly ways. After a brief online introduction and campus tour, participants were encouraged to continue exploration on their own in an effort to create an environment where being in a new and "foreign" online environment would encourage collaboration among the group and the sharing of knowledge. The approach proved to be successful as the participants stated how much fun it was to learn and share with each other. Several were amazed at how much they could accomplish informally on their own using each other as guides and teachers (see Table 2.2).

In an effort to establish trust and open lines of communications with the group, I began sending out a weekly TGIF message. The messages were related in some way to communities of practice. These messages allowed the group members to gain insight into my practice and my beliefs. It was my hope that these messages would spark discussion opportunities among the group. As another means of building trust and community among the group, I sent out email greetings cards for St. Patrick's Day, Easter, April Fools Day, and Tax Day. Finally, I received permission for the group to attend the National Educational Computing Conference together allowing an opportunity for professional growth and community-building.

Table 2.2 – Use of Tapped In Features by Participants

Featured used	Office					
	Office	Customized	Files	Notes	Discussion	Whiteboard
Participant 1	no	n/a	N/A	no	no	no
Participant 2	no	n/a	N/A	no	no	no
Participant 3	yes	no	no	no	no	no
Participant 4	yes	yes	yes	yes	yes	yes
Participant 5	yes	yes	no	no	no	no
Participant 6	yes	no	no	no	no	no
Participant 7	yes	yes	yes	yes	yes	yes
Participant 8	yes	no	no	no	no	no
Participant 9	yes	no	no	no	yes	no
Participant 10	yes	yes	no	no	no	yes
Participant 11	yes	yes	yes	yes	yes	yes

Cycle Two reminded me that cultivating a community of practice is very much a group process rather than an individual process. It cannot be mandated or forced, however, it can be cultivated and opportunities for its emergence can be designed. It is very much a free-flowing organic system that responds to the needs of its members. While every member of the group recognized the value and desirability of communities of practice, and expressed a keen desire to have opportunities to talk and collaborate, dialogue and conversation between meetings was sparse (see Table 2.3).

Table 2.3 NPSS Group Room Discussion Threads Analysis

Discussion Thread Topics	Posts	# of participants	Date Range
Value of Tools	3	3	Feb 28 - Mar 2
Communities of Practice	14	5	Feb 28 - Mar 6
Barriers	4	4	Feb 28 - Mar 6
Tapped In Possibilities	4	4	Feb 28 - Mar 6
Session Format	9	4	Feb 28 - Mar 9
I Have - I Need	0	0	March 15th
St. Patrick's Day Fun	6	3	Mar 16 - Mar 18
NECC	13	7	Mar 25 - Apr 7
Collaboration with another Unit	0	0	April 7th
Summer Opportunities	0	0	April 7th

Table 2.3

It was obvious that our endeavors so far had not provided the value necessary to sustain the community. Consequently, there was no need for the virtual collaboration tools. If this group was to survive and thrive, I would need to find new ways to provide value that would meet its needs.

Cycle Three of my research stepped away from my workplace group and focused on another group of distributed educators (Connaghan, 2005). Cycle

Three asked the question, "If I provide a virtual location for members of the Special Interest Group: Technology Coordinators (SIGTC) to gather and collaborate, will they utilize the opportunity to develop a community of practice?" My purpose in moving outside my workplace to this particular group was to allow myself to see a different perspective and perhaps gain some insight into my own skills. It was at this point in my research that I wasn't sure whether it was the virtual technology tools that were hindering the development of the group, the lack of value and/or trust among the group, or my own skills as a facilitator/community cultivator. Cycle Three explores strategies for cultivating a community of practice among another, different group of geographically distributed educators who shared a common thread: their passion and interest in educational technology. Through the Special Interest Group for Technology Coordinators (SIGTC) of the International Society for Technology Education, I embarked on a mission to provide a means to connect this membership together using a tool called Tapped In (a virtual collaboration tool). In past years, the only means of connecting these members to each other were through a listserv and a meeting forum at a national convention. When first becoming a part of the leadership team of SIGTC, it became apparent to me that SIGTC was not providing guidance or opportunities for its Special Interest Groups to provide value and services to its members. This group was dispersed world-wide and rarely, if ever, had an opportunity to meet face-to-face. This was in contrast to my workplace group that could have opportunities for face-to-face meetings, but that lacked experience with technology tools. Through this cycle, I hoped to gain insight into my own skills of cultivation, the possible barriers that technology might be causing my workplace group, and insight into the role that value plays in community cultivation and participation.

In an effort to provide both value and service to the SIGTC membership, I created a SIGTC group room and designed a series of "live" chat events that members could attend to gain and share knowledge about a common practice: educational technology. In an effort to encourage both our own practice and the practice of educators in general, the SIGTC room was open to all members of Tapped In to join. This decision provided opportunities for a diverse mix of educators, technology coordinators, technology support specialists, administrators, pre-service teachers, and educational researchers (see Appendix A, Table 3.1). This unique environment, mix of members, interactive tools, synchronous "live" events and asynchronous discussion provided the foundation and opportunity for the emergence of a community of practice. These events were successful and drew quite a diverse audience.

With the success of Cycle Three under my belt, I choose to return to my original focus of this action research: NPSS for Cycle Four (Connaghan, 2005). My focus question for this cycle asked, "How can I use face-to-face meetings to provide opportunities for staff members to collaborate and interact with one another as a means to encourage the cultivation of a community of practice?"

This cycle focused in finding ways to encourage collaboration, trust, and community-building among the members of the division. Using the experience of the last cycle, I chose to develop a series of activities that would bring members together face-to-face, but that would also provide a means for participants to improve their technology skills. In effect, I removed the virtual collaboration tools for the time being and focused more on face-to-face collaboration within the entire division. The activities of this cycle were designed to provide an “event” atmosphere similar to that experienced by the SIGTC group. Using what I had learned from my previous cycles, I attempted to design an environment that welcomed and facilitated collaboration based on the individual needs of the participants while still providing opportunities to improve technology skills. In keeping with the SIGTC events, these events were open to the entire staff, not just the small volunteer group that I had been working with. As seen in Tables 4.1, 4.2, 4.3 and 4.4 below, these events established a good foundation for the cultivation of a community of practice among this unique workplace group.

Table 4.1 Fun Tech Friday Event

Fun Tech Friday						
On Task Survey	1:45	2:00	2:15	2:30	2:45	3:00
Participant 1	x	x	x	x	x	x
Participant 3	x	x		x	x	x
Participant 10	x	x		x	x	x
Participant 5	x	x				
Participant 7			x		x	x
Participant 4	x	x	x		left early	
Drop Ins**	0	0	0	0	0	0

Table 4.1

Tables 4.2 Sun 'N Tech Friday Event

Sun 'n Fun Tech Friday							
On Task Survey	1:30	1:45	2:00	2:15	2:30	2:45	3:00
Participant 1	x	x	x	x	x	x	x
Participant 2				x	x	x	x
Participant 6	x	x	x	x	x	x	x
Participant 8				x	x	x	
Participant 4	x	x	x	x	x	x	x
Participant 11	x	x	x	x	x	x	x*
Participant 7	x	x	x	x		x	x
Participant 9	x	x	x	x	x	x	
Participant 12	not arrived		x	x	x	x	x
Participant 13	x	x	x	x	x	x	x
Drop Ins**	4	2	1	0	0	1	0

*Stayed until 4 PM to continue working on project

**staff from NPSS division and other divisions who dropped by to see what was happening.

(Table 4.2)

Table 4.3 Collaboration & Sharing Results

	Sharing and Collaboration		Closing Sharing Activity Participant
	Fun Tech Friday	Sun 'n Fun Tech Friday	
Participant 1	1	1	n/a
Participant 3	1, 2	n/a	n/a
Participant 10	1, 2	n/a	n/a
Participant 5	3	n/a	n/a
Participant 7		1	yes
Participant 4	3	2	yes
Participant 2	n/a	3	yes
Participant 6	n/a	4	yes
Participant 8	n/a	3	yes
Participant 11	n/a	2,4	yes
Participant 9	n/a	4	yes
Participant 12	n/a	4, 5	yes
Participant 13	n/a	5	yes

Matching numbers indicate a collaborative effort was present

Table 4.3

Tables 4.4 Sun 'N Fun Tech Friday Comments

Comments by participants of Sun 'n Fun Tech Friday
Our co-workers will be so jealous that they didn't come to this
This is so cool
That is really good, I'd like to learn how to do that
I like being able to come and work on something of my own choosing
Look at the cute watermelon cookies
There really is Beach Boys music here
These tech days are great, will you do more?
We're really going to get to work together outside? This is huge!
I would have come to this if I had known my school schedule for this week. (comment from a drop in)

Table 4.4

REFLECTION

While the results of this action research have been promising, the process through which they were achieved was not without its challenges. Starting with a broad question asking how I can improve my own practice, this research evolved into a framework for assisting me in stepping into my newly acquired position. In order to cultivate a community of practice, I needed to get to know the culture of the organization, its members, and their needs. Choosing to investigate the process of cultivating communities of practice was very deliberate on my part. My challenge was to provide both leadership and assistance to a distributed workforce in the area of technology integration. Embarking on this journey provided opportunities for me to connect to the staff, bring groups of people together, and learn the culture of the organization. Through the process, I confronted my own shortcomings and developed skills to

overcome them. These experiences have assisted me in designing and developing technology solutions to meet the unique needs of my organization. As a result of this action research project, I am more focused and tuned to the needs of those I serve, and to my role as an educational technology leader.

Communities of Practice Are Similar to Living Organisms

As noted in the literature review, communities defy management and often take on a life of their own. My focus on virtual collaboration tools as a foundation for cultivating the community was in effect an effort on my part to control its development. My workplace community was unable to sustain itself because it had no value beyond its own existence. This result surprised me as the staff expressed a desire to collaborate and meet on a regular basis, and virtual collaboration tools such as Tapped In could provide that opportunity. The NPSS group struggled throughout the first and second cycles, and I continually revisited the question, "How do I provide value?" Looking back, the problem may have been the word "I." I was trying to mold the group into a community of my choosing rather than allowing it to form in its own way. We were at cross purposes. They wanted to learn new technology and new ways of doing things but for them, I was the key to that learning. This was quite frustrating for me as I realized that centering the community on the value of interactions with me would be a mistake if I were to leave the organization. Surprisingly though, I continued to cling to the use of technology throughout the first two cycles even through the results were not promising. As I have discovered, technology will not help to cultivate a community among a group if there is no value in the coming together of the members. This realization told me that I had not designed opportunities in a way that put the focus and value on group interactions, rather the focus remained on technology. This realization caused me to search for ways to assist the NPSS group in finding value in the interactions with each other rather with me specifically.

In contrast, I was very successful in working with the Special Interest Group: Technology Coordinators (SIGTC). I feel the success of this group was due in part to my focus on the needs of the group rather than the technology. The goal of the action was to provide a means for this group of world-wide educators to meet and collaborate on topics of interest. I devoted a lot of time to thinking about what these educators would value in the way of interactions. I asked myself, "What would cause me to give up time in the evening to meet with other educators?" The answer that I came up with was emerging technology. I felt that "live" chat opportunities for educators to discuss and learn about emerging technologies might provide the value to encourage participation in the community. This combination of valued "live" events and a virtual location for interaction provided the perfect environment for cultivating this group into a community.

Focus on Culture and Social Interaction

My original research question, “How could virtual collaboration tools provide a foundation for cultivating a community of practice among groups of itinerant staff members?” provided the foundation for my research. As I reflect on this year-long project I realize that my inexperience with both communities of practice and this new organization caused me to create a question that was too narrow and too focused on technology. Communities of practice are about cultural and social variables. A group’s culture and social nature is important in designing activities that will facilitate community building. As I look at the results of my first two cycles, I realize that I was trying to “pull” the NPSS community into development without any regard to the cultural or social nature of the members. I was not allowing the community to develop its own life and purpose—ones that reflected the needs and issues of the members. Interestingly enough I allowed the SIGTC group to develop in ways that responded to the needs of the group and in return, it responded as the research suggests—it developed a life of its own and is now flourishing and growing. I have found my experiences with these two groups to be inspiring as they are “theory in action,” and my learning from this activity is truly situated learning that would be diminished considerably had I only conducted research without action.

Rhythm and Interactions are Important

One of the nuances that I noticed in the NPSS group was that during each meeting we needed to reestablish the bonds within the group. This need illustrated that our meetings alone were not enough. We needed some type of “event” to help create an environment where members would want to share their practice. The SIGTC group was successful in establishing a shared practice through the “live” chat events held monthly. That success helped me to realize the importance of developing some type of “event” for the NPSS members that would help them re-establish bonds between meetings. The Fun Tech Friday events were in response to the need to develop a rhythm within the NPSS community. I was quite amazed at the difference that those activities created both within the NPSS group and within the division as a whole. Not only did the events attract additional members, they provided authenticity and validation for the group.

Looking Inside Rather Than Outside

At the end of my first two cycles, I seriously doubted my own ability and skill in cultivating a community. In hindsight, I see that it was my desire to mold the community in ways that I wanted that hindered the process. How then did I eventually turn around this action research project? While attending a progress monitoring for student success presentation, I came across a statement that

provided an "ah-ha" moment—don't blame the lettuce if it doesn't grow." This simple statement caused me to stop and think about what I was doing. While I may not have been actually pointing the finger at my group, I was definitely looking outside myself for the cause of the problem rather than inside myself for the answer. This was a pivotal moment for me as it brought me back to the essence of action research—action research is about me, my own practice, and how I can improve my own practice. The question that centered in my mind was whether it was my own lack of skills in cultivating this community, the lack of technology skills in the group, or the unique situation of my workplace that was creating the barrier.

Summary

The cultivation of a community of practice requires careful planning and analysis of the needs of the members. It truly is a cultivating process whereby an action is conducted, interactions are observed, and reflection on the results occurs. Depending on the results of the interaction, a new action may be instituted. The experience of conducting this action research project and continually revisiting the results and adjusting my actions has helped me grow as both a leader and a practitioner. While I may be in the role of leader, it is not necessarily my job to "lead" people where I want them to go. I have learned that if I lead with purpose, there is no need to control the outcomes. The outcomes will take care of themselves. Once I finally looked at my role as that of community coordinator rather than as "the leader," I was better able to assist and nurture the community into existence. The NPSS community is moving from the potential stage into the coalescing stage. In the coalescing stage, and it will be important that I continue to consider ways to develop new events that encourage interaction throughout the next school year. The SIGTC group is approaching the maturing stage of community development, and I will continue to nurture the community and respond to their needs. I have learned to apply the theories and experiences from my studies in ways that are authentic and valuable to my own practice.

This action research process has helped me to learn and grow in my new role. I no longer see my role as that of directing, but rather as that of mentoring. Once I actively took on the role of mentor, I was able to clearly see how I could help build the capacity within each group to collaborate and emerge into a community of practice. This was learned through my interactions with the "live" SIGTC events. I initiated and coordinated those events, but I did not control them and I was not the attraction—the attraction was the interaction with each other. Instead, I transformed my role into that of a coordinator/facilitator. In this role I provided both leadership and mentoring but in ways that met the needs of the group. Throughout my career, I will wear many hats. I will be a leader in terms of managing the technology, designing learning opportunities, developing strategic plans, and setting a vision for the future, but I will also be a mentor in terms of facilitating staff growth and

development among educators. To have a true community of practice, I must enter the community as a member not as an administrator or traditional leader.

APPENDIX A

Figure 3.1
SIGTC Room Member List

Member List	Joined TI	Joined SIGTC Room in TI	Role	Location	Podcast Participant*	Blog Participant*	Handhelds Participant*
Participant 1	2/15/2005	2/23/2005	ITS	VA		Attended	Facilitator
Participant 2	1/12/2005	2/23/2005	TC	WA			
Participant 3	6/7/2005	2/22/2005	ITS	PA	Facilitator	Facilitator	Facilitator
Participant 4	2/28/2005	2/28/2003	TC	NY		Facilitator	
Participant 5	3/1/2005	3/1/2005	Ed	NC			
Participant 6	3/1/2005	3/1/2005	ITS	MD			
Participant 7	2/14/2005	3/6/2005	TS	AL	5 times		
Participant 8	3/10/2005	3/10/2005	TC	MS	12 times		
Participant 9	2/17/2005	3/15/2005	Elem	TX			
Participant 10	9/23/2004	3/16/2005	Admin	PA	5 times	23 times	8 times
Participant 11	3/22/2005	3/22/2005	TC	Honduras			
Participant 12	1/21/2003	3/28/2005	HST	CA			
Participant 13	3/30/2005	3/30/2005	MST	PA		attended	13 times
Participant 14	3/6/2003	3/31/2005	Elem	Canada	4 times	6 times	
Participant 15	6/5/2003	3/31/2005	Museum	VA	7 times		
Participant 16	3/12/2005	3/31/2005	ITS	NY	attended	12 times	
Participant 17	3/10/2005	3/31/2005	TC	NY	15 times	65 times	21 times
Participant 18	2/1/2005	3/31/2005	PreService	TX			
Participant 19	2/28/2005	3/31/2005	Elem	Canada	4 times		
Participant 20	5/7/2004	3/31/2005	HST	MA	1 time	3 times	
Participant 21	1/30/2005	3/31/2005	TC	Bangladesh	7 times		
Participant 22	3/6/2003	3/31/2005	HST	Canada	attended	attended	
Participant 23	2/19/2004	3/31/2005	TS	VA	14 times	18 times	
Participant 24	3/30/2005	3/31/2005	Research	NC	5 times		
Participant 25	3/28/2005	3/31/2005	INS	VA	Facilitator		
Participant 26	3/31/2005	3/31/2005	Elem	PA	attended		
Participant 27	5/5/2003	4/1/2005	TeacherEd	Taiwan			
Participant 28	2/29/2004	4/1/2005	Admin	MD	7 times		
Participant 29	5/5/2005	4/5/2005	TC	TX			
Participant 30	2/24/2005	4/6/2005	TeacherEd	AL			
Participant 31	2/11/2004	4/11/2005	TC	MI			
Participant 32	2/1/2005	4/11/2005	PreService	TX	30 times	attended	
Participant 33	1/30/2005	4/11/2005	Other	TX	9 times		
Participant 34	4/5/2005	4/13/2005	TC	WA			
Participant 35	6/14/2004	4/19/2005	Elem	MD	11 times	12 times	
Participant 36	3/31/2005	5/2/2005	Admin	MT			
Participant 37	5/3/2005	5/3/2005	TC	TX			
Participant 38	5/3/2005	5/3/2005	TeacherEd	TX			
Participant 39	6/19/2003	5/16/2005	Elem	CA		25 times	
Participant 40	10/8/2002	5/16/2005	TC	CA			
Participant 41	5/17/2005	5/17/2005	TC	PA			

Participant 42	6/4/2004	5/23/2005	TC	IA	3 times		
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Key to Roles located on next page.

Key to Roles	
Admin	Administrator
Elem	Elementary Teacher
ITS	Instructional Technology Specialist
MST	Middle School Teacher
HST	High School Teacher
Librarian	Librarian
Museum	Museum
Other	Other
Pre-Serv	Pre-Service
Research	Researcher
TC	Technology Coordinator
TeacherEd	Teacher Educator
TS	Tech Support

Figure 3.1

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