Fostering Knowledge Transfer

in a Corporate Setting

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Introduction

Knowledge. How is it gained? How can it be retained in an organization? How can it be transferred effectively? These are just a few questions that came up as I began the whole process of working on my Action Research Project.

I am the manager of a group of financial analysts at a production facility. It’s within this environment that I have been conducting my project. It is my job to assure that employees have the tools and knowledge to do their job. This means there needs to be proper training, good knowledge transfer, good teamwork, and a motivating environment. All this can be challenging to coordinate because it goes beyond structure. It means there is a culture of learning.

I believe that my group and the greater organization do a good job of training employees on high level corporate philosophies and regulatory requirements. However, we have historically done a poor job of transferring required knowledge needed for our individual job functions. The typical method of knowledge growth has usually happened by chance through trial and error which has never been efficient nor helpful in determining and retaining best practices.

The desired culture of learning has not existed at this lower level, at least not in a very evident or productive way. I believe the biggest indicator is that there are inconsistencies in our output across the site. The desired products are standardized, so you would hope to see them come together as we move through our processes. One reason I feel they haven’t is because practices are not standardized which I feel has been due to a lack of knowledge transfer and collaboration.
Based on my research, I set out to change my practice as a manager. I focused first on my immediate group in areas like the impact of expanded dialogue, improvement workshops, job rotations, skill assessments, and eventually expanded to identifying experts outside the group. Along the way, I looked for ways to engage the employees in useful technology tools. Through the entire project, my main goal was to determine how I could encourage or stimulate an increase in interaction focused on knowledge transfer.

What follows is an in-depth literature review that explores all the facets of what can potentially stimulate this type of transfer. I will then delve into how that related to my particular problem and walk through how I approached the issue in my workplace including the cycles of change and the resulting impact.

Literature Review

My target or goal was to create an environment of cohesion and knowledge transfer. The question was how I could change my practice to encourage this? As I began to search for ideas, I developed the following questions:

- How is knowledge transferred?
- How can I promote a culture of knowledge sharing?
- What can I do to motivate my employees to learn and share their experience?

In an effort to answer these questions, I determined that the best way was to explore writings in the following areas: mentoring, knowledge transfer, collaboration, informal learning, and motivation. I felt that addressing each of these would help in answering the above questions and give me a greater awareness on how to change my
own practice or method of management. What follows will be a look at each of these areas.

*Mentoring*

My company is big on mentoring and its impact on productivity. Enhancing my skills in mentoring can serve to change my practice in a way that motivates employees to share their knowledge. Collis and Winnips (2002) discuss increasing the productivity of mentoring and the concept of “scaffolding”. Scaffolding is a communication process between a mentor and a mentee. The goal is to increase the self-reliance of the employee. It first starts with a concept called “initial support.” Initial support starts with the direct support of a mentor called “task support.” It is, in essence, the jump start an employee needs to get started on a task. Specific instructions and guidelines are given to the employee. Once an employee has been set in motion, the mentor will evaluate progress and move to a stage called “ongoing support.” At this point the mentor provides support to the mentee in the form of feedback and suggestions for improvement, transferring tacit knowledge. The degree of ongoing support changes through time. Along the way, four decision aspects are utilized by the mentor. They are “task support”, “regulation”, “granularity”, and “management”. When considering task support, the mentor makes decisions on what type and how much support is needed by the mentee. Next, the mentor determines how much regulation is needed. It is the intersection of self regulation and ongoing support. Granularity is the determination of the size and scope of support offered. Finally, management relates to the efficiency of the learning process. It is the enabling factor for the other three aspects. The final product that emerges from this is a collaborative process.
The model for mentoring is usually a one on one relationship. While my goal was that of enhancing my mentoring skills, I was most interested in group knowledge transfer. A concept called “expansionist mentoring” (Bryant 1995) in which employees or mentees are grouped together in “learning groups” changes the mindset of traditional mentoring. Employees can be mentored as a group by one mentor characterized as a “learning leader.” They are as concerned about their own learning as they are about the learning of others and the success of the organization. An important aspect of this approach is the encouragement of the development of relationships.

Beyond individual mentoring, there is also discussion of team to team mentoring. Groups are brought together to learn from each other and develop best practices. I was especially interested in this since there are some practices in other groups beyond my own group that could be of benefit to learn.

Bryant also encourages diversity in the selection of team members calling it a matching game. He feels that it enhances the development of a peer network with varied views. But he does mention that consideration of group chemistry needs to be considered when assigning mentors and mentees. Since I work with an established group, I did not have the luxury of picking my team. However, I do have influence on the types of people they go to for knowledge.

Once groups are in motion, Bryant encourages going beyond discussion to dialogue. The distinction is that discussion involves finding solutions, making decisions, gaining consensus, and maintaining hierarchies. Dialogue is deeper. It is about beliefs, exploring ideas, and gaining knowledge. The mentor or “learning leader” should encourage dialogue and serve as an advocate for experimentation.
Knowledge Transfer

One of my big focuses as a manager is employee development. Since there is no guide on how to perform each job at a detailed level, I have to rely on knowledge sharing. This can be difficult to encourage. Employees can tend to hoard information because they feel their sharing may not be reciprocated (Yang 2004). Whether this is the reason or not, I feel there is a certain amount of hoarding in my organization. Yang goes on to say “knowledge increases in value when it is shared.” Thus it is important to demonstrate that sharing knowledge can have mutual benefits.

The first area addressed in Yang’s (2004) writing is that of encouraging a climate of sharing. He stresses the importance of creating an organization that values collective achievement and collaboration. This is a departure from the usual individual achievement that organizations tend to recognize. Shifting the culture takes time and needs to be built into the performance evaluation system. But, if handled correctly, an atmosphere of mutual trust will result that can have profound effects on knowledge sharing.

Yang (2004) discusses four approaches that can be employed to encourage the sharing of knowledge. They are motivation programs, feedback sharing from training programs, opening up communication channels, and capitalizing on social interactions.

In the area of motivation, rewards can be given, both intrinsic and external, that encourage knowledge sharing. He doesn’t delve into the exact types of rewards. But in my company there are many alternatives from instant gifts to cash awards. He stresses
that employees should also be continuously educated or encouraged that knowledge
sharers still possess their own assets and knowledge. But the benefits they will see are in
the refinement and the enrichment of that knowledge as they share it.

Next, he addresses the employee that attends a training session. Typically at my
company, when employees return from these types of sessions, the most we hear is that it
was “pretty good” and that we should consider attending in the future. He encourages a
debriefing in the form of a monthly employee meeting. In this, employees can share
what they learned thereby transferring their learnings to others. At the very least, it
seems to me that employees can evaluate whether there is merit in investing more into the
subject training.

Next, the opening of communication channels is addressed along with social
interaction. Finding ways to encourage conversation and the development of social
relationships can be key to knowledge sharing. Through this, people can examine what
others know and what they still need to learn. One idea is that of “knowledge cafés”,
where employees can gather to discuss topics of mutual interest. This reminds me of a
conversation I had with a friend of mine who works at Starbucks in Seattle. They have
centralized coffee bar areas in their headquarters where employees can sit in a casual
environment and discuss work related issues.

The next area of consideration is that of “communities of practice” (Wenger
2004). These are groups of people who “share a passion for something that they know
how to do, and who interact regularly in order to learn how to do it better.” They are self
managing. So the question is how to encourage or form this type of community.
Communities of practice have three fundamental characteristics. They are “domain”, “community”, and “practice.” The combination of these enables the management of knowledge. Domain represents the area of knowledge that needs to be explored. Community is the group acting upon this knowledge. Lastly, practice is the body of knowledge, tools, stories, etc., that are used by the community. Wenger (2004) also writes about the need to develop a strategy to harness the power of these communities. Moreover, the strategy needs to be transformed into performance.

He further writes about how to integrate the work of communities of practice into an organization. This is done through sponsorship, recognition, and support structures. He speaks of sponsorship beyond traditional management. This type of sponsorship is management’s assurance that the community has the resources it needs and has a means of bringing ideas into the organization. The recognition he writes about, pertains to reputation and calls it a “crucial asset” in a “knowledge economy.” Peer and organizational recognition can enhance an employee’s reputation and this can be motivation to share knowledge.

Support structures are needed to facilitate effective communities. First, explicit roles are needed and dedicated time. Second, direct resources are needed such as meeting places and funds. Third, a technological infrastructure including communication and information collection tools needs to be available. Lastly, they need a small support team to provide consultation and process advice. Some of these seem like a tall order for my small group and seem to speak to a larger organization.

The above research gave me much to consider as far as answering my questions about knowledge sharing and knowledge transfer. I was able to take some of the ideas
about debriefing and expansion of dialogue and incorporate them into my actions. Since much of this seems to revolve around group or team settings, I felt it would be of benefit to research more in that area.

**Collaboration and Teaming**

An effective team seems to be a learning team or “learning organization” (Payne-Anderson 1998) that moves beyond traditional learning. In order to learn, a student must develop four abilities. The first is the development of concrete experiences, performing a job and keeping an open mind. Second, observation and reflection on these experiences is important. Third, the student must form concepts to develop theories. Lastly, the student tests these theories in new situations.

Payne-Anderson (1998) also breaks learning styles into four categories. He states that a “converger” is one who relies on practical knowledge as opposed to a “diverger” who relies on people and imaginative solutions. “Assimilators” are those who are motivated by theory and inductive reasoning. Then there is the “accommodator” who wants to get involved fully in new experiences. He feels that it is imperative to understand the adult learner to avoid wasting time and money.

The next area covered is strategy. He first writes about the development of learning organizations and their purposes. They are to be a center where employees can learn specific job skills, a place of personal growth, and a place to acquire team-building expertise. He suggests multiple strategies that teams and organizations can use to enhance learning including cross-functional teams, job rotations, and workouts where teams are brought together for several days to work on intensive problem solving.
Bringing teams together to solve problems outside of their area of expertise can provide value and new insights.

Through all this, a focus on informal learning is encouraged. Training needs to become more holistic and move away from the traditional formal model. A contrast is made between traditional training and the learning organization in the following ways. Traditional training is seen as focused on content as opposed to processes. Learning organizations should be focused on the workplace as opposed to the classroom. It should be learner centered as opposed to teacher centered. Learning should belong to the employees, not the training department. It should be outcome based as opposed to activity centered. And finally, it should be supported by learning consultants instead of training specialists.

Goldsmith and Morgan (2006) cut to the chase by discussing how to create an effective team without wasting time. They write about the diminishing role of hierarchy that both Wenger and Cross discuss and how networked team leadership is what is emerging as a need. They offer a process for building an effective team in an expedient manner.

The first step involves surveying team members on their current effectiveness. It involves asking questions about how well the team is currently doing and how well it needs to be doing. This can be done using a scale of 1-10. They stress the importance of also pulsing the team on whether they feel a team building exercise would be beneficial or is necessary.

The second step involves tabulating the results and presenting them to the team. In most cases the data will show that the team feels there is a gap between current
effectiveness and where they need to be. It seems that this step is partly designed to gain buy in from the team on doing team building exercises.

The next few steps involve brainstorming ideas on how to close the gap between where they are and where they want to be. This includes identifying key behaviors that would help, prioritizing them, and encouraging dialogue about them. The goal is to have each team member exhibit these behaviors and report out on them monthly.

A further step involves doing follow-up mini-surveys to determine how each member is doing. Using an outside supplier to tabulate the results, each team member can receive a report about themselves. They can also see how the team is progressing toward closing the gap.

The final steps include a meeting after one year to evaluate how the team is performing. Teams can re-evaluate the behaviors they identified the year prior. It is also an opportunity to celebrate and reward improvements with some form of recognition which serves to encourage continued focus on improvement.

I previously touched on the concept of communities of practice. Wenger, McDermott, and Snyder (2004) have identified a number of principles related to cultivating these types of communities. They emphasize first that very little structure is needed to start with the thought that too much structure is limiting and does not allow growth. The goal is to “catalyze community development”, not stifle it. They suggest encouraging open dialogue from both inside and outside the group and inviting different levels of participation to gain diverse perspectives. The new relationships developed can have a strengthening effect on the community. Plus the new ideas can create a level of excitement in the community.
Above all, the focus of the group should be on value and rhythm. The community needs to have dialogue about what provides the greatest value to their products and practices. As they focus on this, it is important to find the right level of meetings, teleconferences, or website activity to provide tempo. The community needs to be alive. But it can’t be so fast that members are overwhelmed or so slow that they become disengaged.

Brown and Duguid (1991) in their study of communities of practice, discuss the relationship between working, learning, and innovation. They suggest that the three are usually thought to be in conflict with each other. Working can be seen as steady and non-changing. Learning can be seen as distinct from working. Innovation can be seen as disruptive but necessary in its impact on working and learning. These three, however, can actually be compatible in a community environment and are intertwined. They state, “Workplace learning is best understood, then, in terms of the communities being formed or joined and personal identities being changed. The central issue in learning is becoming a practitioner, not learning about practice.”

*Informal Learning*

A number of learning theorists tend to study and contrast formal and informal learning. I have found that I am intrigued by the concept of informal learning because it seems to hold more of a key to the problem I am seeing in my workplace. There is a vast amount of knowledge that exists in the minds of employees that never has and probably never will be documented in a very formal manner.

So what is informal learning? It is described with four principles by Lee, Fuller, Ashton, Butler, Felstead, Unwin, and Walters (2004):
1. Context - Learning that occurs outside of classroom based formal education settings

2. Cognizance – Intentional/incidental learning

3. Experiential – Practice and judgment

4. Relationship – Learning through sitting with someone, mentoring, teamwork

Jay Cross (2006) further describes informal learning as a product of the evolution of learning and feels it is a greater necessity now than ever before. He believes that learning is social and that independent or informal learning leads to high performance. It is this performance that is what ultimately matters to corporate executives. He feels that although corporations spend most of their training budgets on formal learning, the majority of learning is informal or natural.

The reason Cross places such an emphasis on the importance of informal learning now is he believes we are in an age of networks. Networks expand and evolve naturally and there is value in that. Where previously, human communication and governance began in nodes and progressed to top down hierarchies, it has evolved to an age of democracies or distributed networks. Networks subvert hierarchies so the formal becomes obsolete.

He believes it is the same with the evolution of learning. He describes the beginnings of learning as “on-on-one”. This progressed to the classroom environment. But today we are progressing toward an informal environment of networks.

Cross feels the progression to informal learning is a good thing and that organization success depends on it. The nature of work is changing and discretion is
needed in the workplace. Employees need to be able to transform relevant knowledge into appropriate action. This can’t be learned from a training program. It is learned from working with others. It has been described as “tacit work” or “discretionary improv” (Cross 2005). It is not something captured in a job description but is crucial to job performance and improvement.

He states that we are in an age of accelerated change. Technological advancements have always occurred through history. These advancements continue at an exponential rate. As such, it is believed that the advancements ahead of us in the 21st century will be equivalent to that of 20,000 years of that in the 20th century. This means things will change rapidly for the rest of our lives. Faced with rapid or massive change, we have two options, adapt or die. If we choose to adapt, we can either rely on our own evolution or choose to learn. Since evolution is slow and can take eons, it is to our advantage to learn.

Looking at learning, there is a spectrum that can vary from formal to informal. Using an analogy, formal leaning is described as a bus (Cross 2005). It is great if the bus is headed to where you want to be. However, informal training is more like driving a car or riding a bike. Learners can go straight to what they need. They can set their own pace, spending time reflecting and taking advantage of mentoring, storytelling, and nurturing.

Formal learning is found to have scant impact when it comes to affecting behavior. In a study of what really does affect behavioral change, it was found that learning only impacts it by 10%. Additionally, it was found that of that learning, only 20% is formal learning. This is in the form of classes and workshops. Going one step further, it was found that only about 20% of what is learned in these workshops and
classes actually translates into employee behavior change. Doing the math, \(10\% \times 20\% \times 20\% = 0.4\%\), this translates to less than 1\% of what changes employee behavior being attributable to formal learning. Yet 80\% of corporate training and development budgets are spent on formal training.

Cross feels that learning is optimizing our connections to the networks that matter to us. It satisfies the community concept of learning (similar to Wenger’s Communities of Practice) and the knowledge aspect which is gaining access to information or “stuff”. He describes this as the “learning ecosystem”. A learner interacts with stuff through pipes such as net connections. Learners also interact with people through relationships. Through these interactions with people and stuff, learning occurs.

He states that people learn best when they:

- Know what is in it for them
- Understand what is expected from them
- Connect with other people
- Are challenged to make choices
- Feel safe about showing what they do and do not know
- Receive information in small packets
- Get frequent progress reports
- Learn things close to the time they need them (just in time)
- Are encouraged by coaches or mentors
- Learn from a variety of modalities
- Confront maybes instead of certainties
- Teach others
• Get positive reinforcement for small victories

• Make and correct mistakes

• Try, try, and try again

• Reflect on their learning and apply its lessons

For the above reasons, Cross encourages “free range learning”. This is described as putting the learners in charge so that it is self service and free of bureaucracy. Learning needs to be relevant and timely. If it isn’t, then it isn’t retained.

Some of the tools described that can be utilized to encourage informal learning include utilization of visual aids as opposed to text laden books and also the use of virtual connections such as blogs, instant messaging, and other forms of internet connectivity. He also encourages training and learning that is not defined by a standard goal or a passing grade. Rather than accepting adequate achievement, we must encourage breakthrough performance.

Perhaps the most significant tool he emphasizes, however, is that of conversation. He describes dialogue as “the most powerful learning technology on Earth” and “the origin and conveyer of knowledge.” Conversations are described as the “stem cells of intellectual capital” (Cross 2005).

The key is being open to change. Many of these tools may not work in every environment but we are warned to avoid “bipolar thinking”. It is not a matter of what will and won’t work but a matter of to what degree it might work. Since the majority of our learning is informal and we are in a rapidly changing environment, it is important to leverage our social environment to enhance learning. Traditional or formal learning has its benefits but it alone will not keep up with the rapid change.
Motivation

As a manager, it is supposed to be one of my primary goals to motivate my employees so they have a desire to do their job well. I feel this is a necessary ingredient in solving the knowledge transfer problem. It is important to think about how a change in practice affects motivation. I feel this is crucial in the age of change. Apathy can quickly put you way behind in a rapidly changing environment.

Motivation is described as “the inner force that drives individuals to accomplish personal and organizational goals” (Linder 1998). The top five results of a study from Linder on motivation showing the rank order of factors that motivate employees were:

1. Interesting work
2. Good wages
3. Full appreciation of work done
4. Job security
5. Good working conditions

I’m not sure I am surprised by the rankings. I know for myself, my number one was good wages when I was younger. But now that I am in my forties, I am definitely seeing the value in interesting work. And it is quite the challenge at times to paint financial analysis as interesting work!

Since it is a group that I am trying to encourage and motivate, I also looked at whether there were differences in approach to motivation at a group level. Garza (1998) found in some studies that in many cases as people were rewarded for their individual
performance, their team's performance ability worsened. It was also found that the more people were rewarded for their performance on a team, the better the team performed. So the challenge is changing the culture by recognizing the list of items that motivate employees and tailoring it to the group level.

Literature Conclusions

The literature is replete with ideas on motivating employees, encouraging team cohesion, and incentivizing knowledge transfer. It all seems to center most in relationships and dialogue. This seemed to be a recurring theme throughout the writings. There was not necessarily a leaning toward complete abandonment of structure and formality. But informal learning, teaming, and collaboration seemed to far outweigh training sessions as the preferred mode to pass knowledge.

I was intrigued by the concept of team mentoring. Traditional mentoring is usually one-on-one. This is something I took away as a definite need to focus on in my group. As individuals, I have been satisfied with their work. In private meetings with them about their performance on their own work statement, I have usually had positive comments for them. However, I find I get frustrated by a lack of cohesion among them. Some of these readings have opened my eyes to the fact that I need to have more regular team discussions where we can talk specifically about how the team is doing and how they are interacting. I also like some of the ideas on team building without wasting time. The theme again seemed to be a focus on dialogue and also surveying and brainstorming ideas on teaming.

The above focus on mentoring and promoting teamwork seemed to lead naturally into the research on informal learning. Informal learning revolves around
relationships and dialogue. So building that foundation is very important. Informal learning also seems to be propelled by some of the latest technology based tools. So I will need to continue to bring those into the conversation as I dig deeper into working with my team.

Looking back at the questions I had formed before digging into the research, I felt satisfied they had been answered to a certain extent for me. In response to what I can do to motivate my employees to learn and share their experience, I found it important to increase dialogue and provide rewards. As far as promoting the culture of knowledge sharing, the rewards and recognition need to be at the group level. I also learned that the vast majority of knowledge is transferred informally. It is with these learnings in mind that I began to work on how I would change my practice.

Local Context

In my organization, each analyst has specific responsibilities and tends to focus only on those. Knowledge transfer has been one of my major challenges as I have very senior employees who are good at what they do and less experienced ones who have a difficult time getting up to speed.

There is no formalized training in the Finance community. Most learning comes from what is sometimes called “tribal knowledge.” Mandatory high level training and regulatory training tends to be delivered using good online tools but at the job specific level, there isn’t much.

The Business Planning and Analysis group at the site level consists of about 20 analysts with 5 reporting to me. They support both the manufacturing leadership group and our executive company offices with financial analysis support. Although
the desired products are standardized, the output tends to be inconsistent and contain errors. My belief is that this is due to a lack of knowledge transfer and collaboration.

Method

The idea of action research is to perform research on your own practices and to take action or steps of change. These steps can also be described as cycles. For the purpose of this study, I will describe two full cycles, the development of a third, and ideas I have for future cycles. It is quite possible for an action research project to go well beyond three or four cycles since it is an iterative process. The outcome of one cycle may lead to further questions and ideas for practice change that lead to the next. In the interest of continuous improvement, the cycles can really go on indefinitely.

My goal in each cycle has been and will be to find ways I can change my practice to encourage knowledge transfer. The first cycle had more to do with introducing some changes to the group whereas the next two involved the group in the development and use of a tool. In each cycle, I have attempted to not influence the results as far as group opinion. I am the manager of the group but I did not want to take an autocratic approach. Rather, I really wanted to open up dialogue and truly find what the group felt was beneficial versus not. This meant I had to be open to the reality that some of my ideas may not fly. I found two reactions to a lot of the change. First, there were areas where the group really let me know what was not working and what they did not want to pursue. Second, there were areas the group ran with that I did not have to push. Based on these two reactions, I feel I was able to accomplish my goal.
Cycle 1

*The action I took*

My Action Research Project is focused on knowledge transfer. It is my feeling that the tasks and the knowledge in my group exist in silos. My goal is to create a team that is cross-trained and cross-functional. This first cycle was about getting them to discover this need and begin to initiate change by increasing employee engagement through:

- Expanded dialogue
- Involvement in process improvement teams
- Involvement in a job rotation program

Encouraging change of any sort is no small task in a corporate culture, especially one that is large with a deep history. Creating change in this type of environment has been likened to correcting the course of a large ship. Instead of turning on a dime, the course is corrected gradually. The analogy seems appropriate when you consider that I have employees who have been performing the same functions for years. Any change, even if I perceive it to be small, can be seen as having significant impact to the group. Also, in this environment, the assignment of work has traditionally been expected to come from management. Instead of the environment being collaborative, it is a segmented work environment where each employee has his or her own work statement and doesn't cross the boundary into someone else's.

One of my first tasks was to discuss with each group member their perceptions of the state of our group. I modeled it after some of the suggestions from Goldsmith and
Morgan (2006) in their writing about creating effective teams without wasting time. They suggested pulsing employees on the "state of the group." I will elaborate more on that in the next section, but the results did confirm my belief that the group's effectiveness in the area of knowledge sharing is a real issue. Based on that confirmation, I took specific action related to my research.

Expanded dialogue

One of the actions I took as a direct result of my research was to increase engagement through dialogue. Both Yang (2004) and Cross (2006) strongly emphasize the power of informal communication. I was holding staff meetings with my group once every other week. I realized in my practice that I tended to look at my staff meetings as a way to cascade knowledge down to my employees. If my manager cancelled his staff meeting or if the site Finance community meetings were cancelled, then I just assumed there was no need for my staff to meet since I had nothing to share with them. I have taken to heart this emphasis on dialogue and have now scheduled these meetings weekly. I also will not cancel them regardless of whether I feel I have something to share or not. This may seem like a simple change but the cycle of cancellation really is a part of the culture at my place of work. What has amazed me is now that I have increased the frequency, we always use the entire hour. It seems there is never a lack of conversation and I have found that there are issues I learn about that I might miss if I had done my usual cancellation.
Involvement in process improvement teams

A second action I took was working with my employees to fold involvement in our site process improvement teams into their goals and objectives. The focus of these teams is to take a deliverable which is common among the site groups and examine the processes behind them in each group. Their goal is to discover best practices and standardize processes. Involvement in these teams has now become a documented part of their Performance Evaluations. Both Yang (2004) and Wenger (2004) wrote about the importance of promoting a climate of sharing by getting people together who share a passion for what they do and can discuss mutual interests. By sending my employees to these sessions, they can participate in a domain of knowledge sharing as well as establish relationships with their peers in the organization. As they interact with other employees, they will gain insight that they might otherwise never gain if they continued to just operate within the walls of the group.

Involvement in job rotation

A third action I took was getting my group involved in a job rotation program. The idea was to volunteer the group to help train an employee who would rotate in and get exposure to what we do. The goal of rotational candidates is to gain a broad knowledge of the group they are studying. This places the existing group in a training role.

As I was coordinating this, one of my employees expressed an interest to possibly go learn some of the functions of our site's cost accounting group. Based on that, I encouraged her to think beyond just that one discipline and to apply to the rotation
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program. She did so and was accepted. So not only did we need to devise a way of exposing a rotational candidate to what we do, we needed to integrate the new candidate into our group to be a productive member. This ties into my research from Payne-Anderson (1998) who encourages employee exchange programs as a form of cross-peer coaching. The way we approached this was not just to have the new candidate pick up the assignments of the one leaving. Instead, an existing member of the group took some of the assignments of the exiting employee and transferred duties to the incoming employee. I believe all of this had an even greater effect in motivating my group due to the sense of urgency. And creating a sense of urgency is stated as the number one step in leading change by Kotter (2007).

The data I collected

In this first cycle, I first reflected on my past observations. The employees work in silos. There is little job sharing, no equitable skill sets, and no means to document and validate knowledge transfer. My initial action was to informally interview my employees. I had two goals in mind. First, I wanted to get a feel for what they understood and informally share my perceptions. Second, I wanted to continue to build dialogue with the team. I asked them what they felt about the state of the group. The recurring themes were as follows:

- Each analyst felt there were certain areas of their jobs they were proficient in but other areas where they were struggling.
- Each felt they had a low understanding of each others jobs.
• Each felt they did not necessarily understand the entire function of the group in
terms of all deliverables we are required to produce.

• Each had some sort of informal network they used to contact individuals outside
the organization for help.

• In response to questions related to Web 2.0 tools such as wikis, they seemed to
only have a cursory knowledge of such things is Wikipedia.

After the actions I took in cycle one, I sat down with each of them again to
discuss their performance evaluation goals and objectives. During these meetings I
discussed the recurring themes from our initial meetings and whether their feelings had
changed. The following are the results:

• Each analyst felt there are still areas they are struggling in but have found new
connections in the process improvement teams that they can call upon.

• Each still feels they have a low understanding of each others jobs.

• Each is beginning to have a greater awareness of the global group function partly
due to our increased communication and also due to the brainstorming list that
helps them understand all group deliverables.

• Each has enhanced their external network through new connections in the process
improvement teams.

Analysis of the data

The initial data confirmed my belief that the knowledge in the group is
maintained in silos. I was also surprised to find that this was more than just a case of lack
of sharing or a case of knowledge hoarding. The lack of understanding of each others
jobs and group functions extended even to the most seasoned employees. This means that even the higher level employees were lacking in some basic knowledge and there appears to be an overall knowledge deficit in the group. It was also clear that although I wish to leverage technology for collaboration and knowledge transfer, it presents a challenge. My group is just beginning to gain exposure to these technologies as they are introduced slowly in my company.

The post-cycle data suggested an increasing awareness in the group of the deficits and the need for change. It also gave me an indication that while I have introduced a lot of change, there needs to be a more concerted effort to address the transfer of knowledge internal to the group.

I found it interesting when I asked questions about the increased connections employees gained resulting from their involvement with improvement teams. One employee stated he now calls on another employee outside our group for help with the capital acquisition process. This person he calls on for help has the same job function in a different group. When I asked him if this new connection could be considered a subject matter expert, he replied, "No." When I asked if this person had greater knowledge than him, again the answer was, "No." He went on to explain that this connection was just someone he felt comfortable with even though he knew of someone else at the site who he would consider to be a subject matter expert. To me, this was a testimonial about increased dialogue, the cultivating of relationships, and ultimately communities of practice. It seems to be a matter again of getting people together and encouraging conversation. The missing component here was the subject matter expert. So it speaks to
the importance of taking it to the next level of identifying the experts, bringing them into the conversation, and encouraging interaction.

**Thoughts leading to cycle 2**

As I thought about the actions and results of cycle one, my feeling was that I had introduced some changes that were definitely beneficial. Expanding dialogue and involving them in improvement teams and job rotations will continue to be helpful. But I still found that I needed help in identifying crucial areas of need for the group. I also felt that I needed to identify just who the subject matter experts are that can help us with those needs. So I determined that I needed to begin working with the team to determine how to do just that; determine where our areas of deficit are and who is an expert at what.

**Cycle 2**

**The action I took**

The second cycle in my project was about getting the team engaged in understanding just where they stood in terms of the knowledge they need to do their jobs. I first wanted to validate my feeling that I had in the first cycle that knowledge exists in silos. So I had the group first brainstorm every conceivable system or task they could think of that is used or performed in the group. I wanted to come up with a list that they could use to assess themselves with to determine their levels of expertise. This was very important because it got at the heart of the problem. I am trying to encourage and engage my team in knowledge transfer. So a major question should really be what kind of
knowledge we are talking about. I think this exercise gave us an objective view of just what it is.

One method of brainstorming the list of tasks and skills could have been to just get them in a room, pull out a flip chart, and just ask them to call out their ideas. However, one of my side goals was to leverage new technologies along the way that may help in this process. So I was very excited when my company launched a pilot wiki program. I applied for a wiki for our group and introduced them to the program. Then I asked them to do the aforementioned brainstorming in the wiki. My goal here was to expand their thinking about traditional brainstorming and also get them thinking about ways wikis might be used for process documentation. This met with mixed results as they were not impressed with the particular product my company has chosen. But it did help set the foundation for the assessment exercise.

The team helped me develop an assessment tool or catalogue of skills within a matrix. It included all the systems and tasks mentioned above plus the names of all the individuals in the group and boxes to do self assessments for each item by individual. Each team member was to rate their level of knowledge anywhere from little or no knowledge up to subject matter expert (SME).

I was careful to not try to develop this tool on my own but rather, I put it up on screen every staff meeting to discuss where we were at and possible enhancements that could be made to it. My vision was twofold. First, I wanted this to be more than an assessment tool for the beginning of a cycle. I wanted to explore using this as a knowledge transfer tool for the team. Second, I really wanted the resulting tool to come
from a collaborative effort. Creating an organization that values collective achievement
is something that Yang (2004) stresses as important in encouraging knowledge transfer. I
felt that the development of this tool as a group would be a step in that direction.

Performing this sort of self assessment seemed at first to be very subjective. But I
felt that was okay because I really wanted to engage the group in dialogue about what it
means to be an expert at something. I also didn’t want this exercise to have the feel of a
test that would be used for merit evaluations. I really wanted to create a threat free
environment that would encourage collaboration. This seemed to work and we had some
interesting discussions.

The resulting criteria for what it meant to be a SME versus someone with low
knowledge had to do with each employee’s confidence that they could perform the tasks
without the need of guidance. So, for example, a SME would be able to work without
guidance and would be someone who could be drawn on for guidance by someone with
lesser knowledge. Someone with a rating of High could perform the task well but would
occasionally need to call on a SME for guidance. A Medium rating would be for those
who have a fair amount of knowledge but would need to regularly access documentation
or call on the help of a SME. A rating of Low would be for the individual who has been
exposed to the task but would need both process documentation and a SME or High rated
employee present to provide on the job training. Finally, a rating of Never Used would
be, of course, someone who has had no exposure and needs to be trained.

Yet another refinement to the tool was to change it to a stoplight format using red,
yellow, and green as indicators. They felt that a level of High or SME should be
displayed as a green indicator as a visual that the knowledge level is at an acceptable level. Medium would be displayed as yellow. Low or Never Used would be displayed as red. They also decided to switch to a numbering system because of the conditional formatting of the software. This made it easier to update as the colors were automatically generated by the number entered.

Perhaps the biggest refinement the group has done without my prodding is the addition of a column with links to process documentation they have chosen to develop. Another column that was added identifies a primary and a backup focal for each system or task. This is evidence to me that they are finding value in this tool. They are adding functionality to it that I neither directed nor envisioned.

The data I collected in cycle 2

The second cycle data was all collected within the newly developed skill assessment matrix. Each team member rated themselves as to their own skill level or really their knowledge in each item as follows: SME, High, Medium, Low, or Never Used (see Appendix A).

I considered the team’s the initial assessments to be the Cycle two data collection. At the end of cycle two, as I previously discussed, I found that the tool itself had evolved quite a bit from its original format (see Appendix B). The assessment format, while different, is still comparable to the original, so I was able to gauge changes.

Data analysis for cycle 2
As the team completed the self assessments, it became clear that my suspicions were correct. Most of the items listed had one person who was a SME and the rest of the group had little or no knowledge. This is what I describe as knowledge silos where the group is unable to function in those areas in the absence of the SME. There were also a few areas where we determined we had no SME’s in the group, in which case, we found ourselves dealing with what I call a knowledge deficit.

The post cycle data for this second cycle suggested there has been change in knowledge levels for some of the items. I have been able to see some success in the way of moving some of the items toward an acceptable group rating; that is, a rating on some of the items that implied a knowledge silo no longer exists. This has been accomplished in various ways including process documentation and greater focus on cross training. I believe all of this stemmed from our increased dialogue and work with the tool. There has been a concerted effort on the part of the team to begin pushing for ways to decrease the red areas on the chart and increase the green.

One interesting note is that the group has begun thinking beyond just knowledge transfer within the group. They have started thinking about the differences in our processes from other Finance groups on our production site. This has come up in numerous discussions in staff meetings and really laid the foundation for Cycle 3.

*Thoughts leading to cycle 3*

Much of what we accomplished in cycle two revolved around internal tasks and processes. It didn’t address what is going on outside the group. We have processes that
have been developed and revised over years. While we are supposed to be providing our customers the same outputs as the other groups on our site, each group tends to have very different methods. So even if everyone on my team was an expert in a given process, that would not mean that we have the best practice on the site. So my feeling was that the goal for the next cycle needed to revolve around identifying expertise beyond our group.

Cycle 3

The action I took

The third cycle began with my asking the team to begin identifying who they perceived to be the subject matter experts (SME’s) outside our group in each of the skills in the skill matrix. I felt this would possibly allow us to map our skills and knowledge transfer to the appropriate resources outside the group. The idea was that there are SME’s outside our group that we can call on to better our knowledge or for help in the event that one of our SME’s is absent. They are the ones with whom the group needs to establish connections.

After some discussion, my group suggested that the best way to determine who the site experts were was to utilize our internally developed skill matrix across the site. My initial concern was that this tool was really built from the ground up within my group. I was concerned about the reaction to requesting all fiscal employees to rate themselves when they really had not been involved in the process. However, I did agree with them that this would be the best method of really gauging the knowledge levels outside the group.
My first thought was to engage our site “lean” focal. She is responsible for facilitating lean process improvements in Finance across the site. I invited her to our staff meeting and she was immediately sold on the idea. From there, she immediately called a meeting with the rest of the Finance managers and the Site Senior Manager for me to walk them through the tool. The result of the meeting was very positive. The various managers seemed very interested in using this tool for their groups and jointly proposed that it be deployed site wide. At the time of this writing, we are still in the assessment stage for the production site.

This whole turn of events was more than I expected. I will be very interested to see the resulting data. One of my expectations will be that we may find SME’s in certain skills but as we dig deeper into the documented processes, we will find that the expertise is mutually exclusive. What I mean by this is that we may have two SME’s in capital planning, for example, but the job processes may be quite different.

Future Cycles

It will be of the utmost importance to engage the team in determining how to get to the end goal they have already bought into. That goal is for the team to have enough knowledge to perform at full efficiency regardless of the absence of one of the team members. I have already made the expectation clear and have made clear the sense of urgency. It will be a challenge to the group to step out of their comfort zones and perform training, document processes, and make new connections.
So one question is what do I see as a vision for future cycles? These first three cycles have been more about working with my group to expand dialogue, understand group knowledge levels, and create connections to SME’s outside the group. I feel the next level is to begin working toward a site cohesion that not only encourages knowledge transfer but productive efficiency. As such, I see the next steps revolving around standardization and training.

Standardization can be described as one process to complete a task or produce a product. It can be likened to the lean manufacturing process. This is something I don’t feel exists in our site organization. I fully anticipate that the site level assessments will highlight a number of differences between groups as to our processes for creating the same types of products. It will become necessary to standardize these in order to maintain cohesion across the site and make it easier to call on SME’s and train new employees. I have spoken both with my group and with our site lean focal about this and I think if we can work some of the bugs out of our pilot wiki program, it may be an excellent forum to begin using for standard process development.

Training is an area I wish to explore further when it comes to standardized processes. As we delve deeper into process documentation and standardization, I feel there may be an opportunity to deliver some of the basic concepts to our employees through the use of training technologies. While the research I conducted certainly spoke to the informal nature of learning, I feel that there still may be some value in a formalized approach to delivering localized training using some sort of rapid e-learning development tool. I think these tools take the formality out of training and allow for flexibility in the
development and the ease of changing training as processes change. E-learning, as it
eexists today in my company, is only at the corporate level. I wish to explore getting it
into the hands of the Finance employees.

Final Reflection

What I learned

My professional background has always revolved around numbers, statistics,
charts, graphs, budgets and anything else that was quantifiable. Even when I managed on
the production floor years ago, my first inclination was to gravitate toward schedule
reports and production completion reports. It’s not that I was not a people person. I
enjoy talking to people and have been told I have good people skills. But I mostly have
looked at my job as a manager as one of making sure all the deadlines are met.

My journey through this action research project came at a time when my company
is beginning to redefine the role of a manager to not just be a director but to be a teacher.
Being a teacher implies that you are developing your team. Both the research and the
experience have answered questions and opened my eyes to changes needed in my
practice in order to fulfill that role.

How is knowledge transferred?

As I previously stated, my organization spends a lot of time on regulatory and
high level training. Employees are inundated with this type of training but struggle to
learn their daily functions. But this training never addresses the daily job functions. I
learned that although we spend a lot of time on the formal, most knowledge is transferred
informally. So it is really about connections and spending quality time together. My actions need to take this into account. I have found it is imperative to engage my team in conversation. I need to spend time with them talking. I need to keep them talking to each other.

*How can I promote a culture of knowledge sharing?*

The research pointed me to ways to increase motivation, engage my team in dialogue, and recognize that most learning is informal. This has changed my way of thinking and my practice in that I always try to find more ways to engage them in conversation. As I stated in cycle one, I make a point of never canceling my staff meetings. But I am taking it even further. I try to make a point of walking over to my group in the mornings to engage them in conversation, even if it is not work related and also making sure I do the same before I leave for the evening.

I now make a point to try to stimulate or steer a lot of dialogue toward the subject of knowledge transfer. Much of my research and action has encouraged me to help the subject matter experts see that there is value beyond having knowledge. The greater value is in sharing it and expanding upon it.

I am working to take this to heart when it comes to motivational rewards. In the past, I might typically give these out to recognize an employee for completion of a complex assignment or as a year end thank you. More often than not, I would forget to give anything. I have now been making a concerted effort to use our reward system to recognize employees for the sharing of their knowledge. A recent example of an action that was rewarded was when one of my employees volunteered to participate in a process
improvement activity. The rest of the improvement team appreciated the expertise that she shared so much that they contacted me and asked me to give her an award.

What can I do to motivate my employees to learn and share their experience?

I believe I found that most employees want to learn. They just don’t want to learn things that aren’t relevant to them and they get frustrated when they can’t get the knowledge they really need. My company seems to spend a lot of resources pushing high level training to them that they may never utilize. At the same time, they may be sitting right next to someone who has the knowledge they need but that person is not readily sharing or is hoarding it. Again, just expanding the dialogue about this has made a great difference. I now bring our skill matrix up on screen at every single staff meeting to stimulate the discussion.

I have noticed a renewed sense of energy in the group. During my initial introductions of things like the wiki pilot and the idea of self assessments to the group, there was a bit of skepticism. But along the way, I tried to not impose the use of any tools. I only solicited informal input on their feelings about the tools and the project. I felt that was the best way to get a true sense of where they were at with the introduction of new technologies and my collaboration ideas.

I wish to continue to engage my employees in creating the vehicles for change. I really want them to continue to stretch themselves in determining how we get to the goal of continuous knowledge transfer. We have done much in the way of identifying data showing where we have deficiencies, which I think is good. Kotter (2007) states that the presentation of data can change thinking and ultimately change behavior. But he also states that creating compelling experiences can change feelings which more significantly
impact behavior. I think engaging them in producing tools that help focus on who our SME’s are and how to transfer knowledge has done both. I am encouraged since they have jumped in and contributed in areas without being pushed. It is my goal to get them thinking about how to pull the knowledge they are lacking as opposed to waiting for someone to give it to them.
Appendix A

Initial skill assessment tool and data set:

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Enhanced tool and data set after team modifications.
Bibliography


