

Best Practices for Eliciting and Transferring Expertise through Communities of Practice

Holly C. Baxter, Ph.D., Michael Prevou, Ph.D.
Strategic Knowledge Solutions, Inc.
Vandalia, OH, Leavenworth, KS
Holly@strategicKS.com, Mike@strategicKS.com

Ron Pruyt
Dynamics Research Corporation
Leavenworth, KS
ronald.pruyt@us.army.mil

ABSTRACT

The ability to share tacit knowledge and expertise rapidly between and among teams is crucial in today's high-stakes organizations. The shift away from individual explicit routine tasks to a more team-based environment makes it imperative that we adapt by exploiting observations, insights, and lessons learned to create dynamic relevant training that develops more adaptive teams. Without effective knowledge capture and transfer techniques, these valuable lessons learned and best practices can go to waste. One of the biggest challenges is that expertise is very difficult to capture and share in a timely manner using traditional methods. Finding a way to do this in an innovative format is critical to maintaining a competitive advantage. A new method for quickly capturing and sharing expertise from the field to the classroom is by using traditional community of practice forums in a very nontraditional way. ∴ This study looks at how we went about transforming the US Army Transition Team Forum from a traditional knowledge management forum into a transformational educational tool that gives soldiers the ability to rapidly share and transfer lessons learned through the use of stories and other methods in an online structured forum format. This paper discusses how key principles of Cognitive Task Analysis were applied to an online community of practice in order to capture and transfer expertise among soldiers. We discuss the types of information we were capturing prior to any changes, how we altered the language used in the questions to capture expertise in a transferable format, and the significant change in both knowledge capture and transfer we saw as a result. Additionally, we share our lessons learned including best practices and tips for improving questions that stimulate discussion in communities and to move them from knowledge storerooms to knowledge sharing tools.

ABOUT THE AUTHORS

Holly C. Baxter, Ph.D., Chief Scientist of Strategic Knowledge Solutions, has spent the past decade specializing in Instructional Design, Evaluation Metrics, Organizational Development, and Training in both military and commercial environments. Her experience includes developing effective vignette based training for enhancing situation awareness, designing embedded training solutions for damage control personnel, developing evaluation metrics for simulation based training, identifying cognitive training requirements utilizing expertise in Cognitive Task Analysis (CTA), and using knowledge management tools to capture tacit knowledge in the field and turn that knowledge into effective just-in-time vignette based training. Dr. Baxter has published numerous articles in the field of cognitively based training solutions, has been an invited speaker at multiple conferences and events, and has given many workshops on CTA, Vignette Development, Intuitive Decision-making, and Leadership Development. Dr. Baxter earned a Ph.D. from Indiana University in Organizational Communication and Management with a focus on Instructional Design.

Ron Pruyt, Business Systems Analyst for Dynamics Research Corporation, is the Knowledge Management Advisor for the 1st Infantry Division located in Ft Riley, Kansas. Mr. Pruyt has served as the forum leader for the Transition Teams Professional Forum since July 2007. His experience includes 23 years of military service in the US Army with two combat tours in Iraq, Desert Storm and Operation Iraqi Freedom II, during which he served as the Operations Sergeant Major and Command Sergeant Major for an infantry battalion where he helped form and train an Iraqi Army Battalion in Samarra, Iraq.

Mike Prevou, Ph.D., LTC, US Army Retired is the Co-Founder and President of Strategic Knowledge Solutions, specializing in Knowledge & Learning Solutions. Dr. Mike Prevou has been involved with BCKS since its inception in 2004 and is currently supporting the BCKS Knowledge Networks Division responsible for designing, deploying

and maintaining an Army network of professional forums (communities of practice), conducting knowledge assessments, developing knowledge sharing strategies and solutions and advising the program on emerging Knowledge Management initiatives. He is a combat veteran, a former Observer Controller and Professor at the Command and General Staff College, Fort Leavenworth. He is currently an Adjunct Professor at the Roland Tseng College of Extended Learning, California State University, Northridge, where he is teaching a masters program in Knowledge Management

Best Practices for Eliciting and Transferring Expertise through Communities of Practice

Holly C. Baxter, Ph.D., Michael Prevou, Ph.D.
Strategic Knowledge Solutions, Inc.
Vandalia, OH, Leavenworth, KS
Holly@strategicKS.com, Mike@strategicKS.com

Ron Pruyt
Dynamics Research Corporation
Leavenworth, KS
ronald.pruyt@us.army.mil

"The only sustainable advantage an organization has comes from what it collectively knows, how efficiently it uses what it knows, and how readily it acquires and uses new knowledge." - Hubert Saint-Onge

lessons of 12-15 months in action must be passed to future generations of transition teams, before, during, and after operations.

INTRODUCTION

We live in an age of networks and globalization, where opportunities and threats may come from anywhere. This era imposes a need for unprecedented speed in learning, transforming that learning into new expertise, and applying that expertise in innovative ways. Cultural awareness and the ability to work with other cultures is a prerequisite for any Transition Team operation. Our research has shown that one means to globally collect, manage, and disseminate lessons learned and best practices is through managed conversations rather than codified data-based artifacts.

The current operating environment requires that every Soldier possess the interpersonal and diplomatic skills necessary to make a positive strategic impact through their actions in their area of influence. The core of these skills includes cultural awareness and understanding, leading to the skills needed for cross-cultural negotiation in high-stakes, high-stress environments. Addressing this need with a focus on cross-cultural understanding and negotiation skills supports the Army's Transition Team goal to develop leaders who are "skilled ambassadors."

The general requirement for knowledge-creation, and innovative learning is complicated for many organizations. This is especially true for Transition Teams due to the non-standard mission of an advisor. The requirement to rapidly build a team with personnel who are unfamiliar with one another along with the geographical dispersion between the current, seasoned team and the transition team in training adds an additional level of complexity. This seasoned cohort of current transition teams has a deep expertise in generating custom solutions and addressing the various conditions and situations that new transition team members will encounter. The challenge is capturing and transferring that experience and knowledge. The

TRANSITION TEAMS

While the lessons learned can be applied to any organization, the focus of our research was on Military Transition Teams (MiTTs) due to their unique challenges and dynamic nature. The mission of MiTTs is to advise the security forces of Iraq and Afghanistan (and other locations as needed) in order to enable those Host Nation forces to conduct independent counterinsurgency operations and secure their country. MiTTs do this by training, advising, and assisting their Host Nation counterparts. Teams will also provide "coalition effects." These effects may range from air strikes in support of foreign unit operations to logistics in support of foreign unit sustainment. Providing effects is the primary way the team demonstrates their value and thus, is able to influence their Host Nation unit. MiTT members are almost never from the same unit. They are usually established by bringing 12-16 soldiers, marines, sailors, or airmen together for a designated period of time (usually 12-15 months) and training them at a centralized location on a predefined set of drills and standards.

MiTTs face many unique challenges as part of their mission. They must contend with the fact that the unit they are working with is not a US unit and has different practices, customs, and motivations. The team members serve as advisors to help the Host Nation unit improve and operate, but they are unable to direct action or change. They must be able to influence the unit leaders without having any legitimate authority. Most importantly, the team's job is about building and sustaining relationships through respect, trust, and patience. (McConnell, Matson, & Clemmer, 2007; Kite, Matson, & McConnell, 2006)

TYPES OF TRANSITION TEAMS

To understand the complexity of sharing expertise and developing relevant training for Transition Teams, it is important to understand that there are multiple types of teams, each with a different mission and skills required. The majority of the teams are Military Transition Teams (MiTTs) whose mission is to train and advise the Army in Iraq or Afghanistan. Teams are at the Battalion, Brigade, or Division Level, and like most teams in Iraq, have 11-13 Soldiers assigned (teams in Afghanistan have up to 16). There is also a team at the Iraqi Ground Forces Command Headquarters.

National Police Transition Teams are teams that are embedded with the Ministry of the Interior's paramilitary Iraqi National Police and Iraq Police Service. One challenge with these teams is the advising of a non-military unit which adds to the cultural differences and challenges.

Border Transition Teams (BTTs) are transition teams that advise the Ministry of Interior's Department of Border Enforcement at the regimental and battalion levels. These teams assist in patrolling and controlling illegal border crossings on Iraq's international borders. BTTs are normally assigned two contractors who usually are former US Border Patrol agents, which helps provide some of the needed expertise for successfully accomplishing this task.

Motorized Transport Regiment teams are assigned to an Iraqi transportation regiment and advise, assist, and provide coalition effects for the regiment as they perform their transport mission.

The US military also embeds a small number of specialty teams in low-density administrative, logistics, base security, and other units.

This range of teams makes developing a training program with enough breadth and depth to cover all the key challenges they could encounter extremely difficult.

TRANSITION TEAM MAKE-UP

Not only are there multiple and wide-ranging types of Transition Teams, but they are made up of a very diverse group of soldiers, who are often performing the role of an advisor for the first time. Transition Teams are not formed from previously existing cohesive teams, but are rather a collection of individuals with the needed skills for a given team tasked to perform the

mission. These teams are formed rapidly, and in most cases have never met before deployment to the training site.

A typical Transition Team has 11-13 members lead by a Team Chief. The goal of the Team Chief is to build and sustain a cohesive and effective team by ensuring all the members are well trained and integrated.

While there are differences from team to team, a typical team has roles including: S1/Headquarters and Service Company Advisor (responsible for the administrative functions including duties such as pay operations and awards programs), S2 Advisor (focuses on the Host Nation unit's intelligence skills including predictive analysis and detainee operations), Team S2 Non-Commissioned Officer In Charge (maintains standards and develops Non-Commissioned Officers both on the Team and with the Iraqi or other Army), Maneuver Advisor/XO (second in command and tracks the Team's daily operations and advises the Host Nation unit's Operations Officer), S4 Advisor/ Non-Commissioned Officer In Charge (deals with supply and logistics issues), Communications Non-Commissioned Officer In Charge (keeps the team in contact with Higher Headquarters and advises on Host Nation communications), Fire Support Officer/ Non-Commissioned Officer In Charge (deals with issues involving calls for fire or close air support, targeting, and vehicle operations), and a Medic (responsible for team medical and health maintenance, medical supplies, and Host nation medical training.)

COMMUNITIES OF PRACTICE

Given the diversity of the types of teams, their goals, and the individuals serving on those teams, traditional training methods are often not able to prepare Transition Teams for the challenges they will face. In an effort to rapidly capture the expertise and lessons learned from current Transition Team members and transfer that expertise to new teams, teams in other theaters, or teams in different parts of the same theater, a Transition Team Community of Practice was developed and a full time knowledge management advisor was employed to facilitate conversation and knowledge transfer.

A Community of Practice (CoP) is a group of individuals participating in a similar practice and focused on practical solutions. The communal activity, oriented on solutions, helps create a shared identity. Through continuous conversation, members engage with one another (an important distinction from engaging with a data repository) and share experience,

lessons learned, stories, and best practices in context relevant to that domain. What makes a Community of Practice even more effective is a trained professional facilitator to stimulate and manage conversations and the elicitation and transfer of expertise. Communities of practice share both tacit and explicit knowledge through connections of members in conversation about relevant and timely context (Prevou, 2008).

Managing conversations requires active encouragement to participate in a dialogue (for example, during a threaded discussion in a virtual community) that elicits concepts and stories from personal experiences and knowledge. The conversation supports collaboration on how to respond to or act in a particular culture given a certain situation. Managing conversation also involves developing and enforcing conversational etiquette and conventions to build shared trust, overcome defensiveness, and optimize constructive interaction. It requires editing the conversation; artfully shaping the process through which an individual, team, group, unit or organization externalizes what it tacitly knows; and then refining, combining, and restructuring that knowledge into a format that promotes the transfer of expertise. Managing conversations requires imaginative fostering of innovative language, including the use of metaphors and stories likely to ignite new perspectives (Cianciolo, Morris, Prevou, & Pstoka, 2007; Prevou & Wikoff, 2001).

TRANSITION TEAM COMMUNITY OF PRACTICE

An integral part of the US Army Battle Command Knowledge System Program, the Transition Team Community of Practice helps us explore and think about new ways to look at blending formal and informal learning approaches across a geographically dispersed group of users and implementing virtual collaboration in an effective way.

This approach has allowed us to tap the skills of experienced, professional, and highly skilled team members in order to jointly maximize the artistic, educational, and social impact of the community.

A key part of a facilitated CoP is not only stimulating discussion and knowledge sharing by asking the right questions, but by asking those questions the right way to tap into the tacit expertise of Soldiers. As the community started, we focused on asking the right questions, but we did not take the natural cognitive processes of the soldiers into consideration. As a result, we asked large banks of questions at a time that elicited brief replies and did not capture the stories and

expertise in a useful context which is vital for learning transfer. Table 1 shows actual responses we received to some of the questions we initially posed. These five questions and responses were part of an initial set of 12 questions.

Table 1: Sample Questions	
1.	<i>(Q) Was there a situation that you experienced that you weren't prepared for in your training? If so, explain. (A) Many. The most difficult problems related CMO, personnel/pay tracking, contracting and others.</i>
2.	<i>(Q) What would you have trained on more before deploying? (A) CMO, contracting.</i>
3.	<i>(Q) Describe a typical day for you and your team. (A) It varied based upon op tempo.</i>
4.	<i>(Q) Describe your hardest day. (A) Hafia street ops or days we lost soldiers.</i>
5.	<i>(Q) Describe how you developed your relationship with the coalition unit (if any) your team was/is attached to. (A) Deep cooperation. You are a team working toward one goal, "Iraqis taking the lead." The TT worked on the Iraqis from one side and the maneuver team from the other.</i>

KNOWLEDGE ENGINEERING

As we analyzed the questions and responses, we realized we needed to find a method to address the questions in a way that elicited expertise and knowledge transfer. In order to accomplish this goal, we utilized knowledge engineering techniques. Knowledge engineering is the Knowledge Management technique for getting inside the heads of individual and team experts, capturing that expertise, and making it accessible to both formal education and training and informal learning and knowledge transfer, as well as to the structures that support decision-making, problem-solving, and performance.

For this effort, we leveraged Cognitive Task Analysis (CTA), which is the process of understanding the team or individual cognitive demands of a task. It provides a set of tools for eliciting and representing general and specific knowledge pertaining to a particular activity. The purpose of using CTA methods is to get inside the heads of experienced Transition Team members and try to understand the "cognitive map" that guides their

decision-making processes. Employing CTA allows us to understand many of the cognitive aspects involved in the judgment, decision-making, and problem-solving skills that are so critical in an operational environment.

While CTA has traditionally been a face-to-face type of methodology for eliciting knowledge, we adapted and were able to apply the same principles in an online environment. We found that no single method works well in all cases; the methods must be adapted to suit the needs of each domain and address individual cognitive differences. The methods that are most effective depend on the characteristics of the task, the characteristics of the individual team members, and the conditions under which they must perform the task.

For this project, we began with a Knowledge Audit method. The Knowledge Audit draws directly from the research literature on expert-novice differences (Chi, Feltovich, & Glaser, 1981; Dreyfus, 1972; Dreyfus & Dreyfus, 1986; Hoffman, 1992; Klein & Hoffman, 1993; Shanteau, 1985) and Critical Decision Method (CDM) studies of expert decision making (Crandall & Getchell-Reiter, 1993; Klein, Calderwood, & MacGregor, 1989; Klinger & Gomes, 1993; Militello & Lim, 1995). The Knowledge Audit has been developed as a means for capturing the most important aspects of expertise while streamlining the intensive data collection and analysis methods that typify studies of expertise. This elicitation technique is organized around knowledge categories that have been found to characterize expertise: diagnosing and predicting, situation awareness, perceptual skills, developing and knowing when to apply tricks of the trade, improvising, metacognition, recognizing anomalies, and compensating for system limitations. The Knowledge Audit employs a set of probes designed to describe types of domain knowledge or skill and elicit appropriate examples. The goal is not simply to find out whether each component is present in the task, but to find out the nature of these skills, specific events where they were required, strategies that have been used, and so forth.

The list of questions derived from the Knowledge Audit is the starting point for eliciting knowledge in the community. The facilitator can then tailor the questions to a given topic or task and dig into the specific critical cues and strategies of decision making that typify expertise in the domain. The examples elicited in this online format do not contain the extensive detail and sense of dynamics that more labor-intensive face-to-face interviewing methods do. However, they do provide enough detail to retain the appropriate context of the incident, which allows for knowledge transfer.

IMPROVING KNOWLEDGE CAPTURE AND TRANSFER

Based on CTA principles, we developed the following recommendations:

1. *Keep questions short both in description and the number of questions asked at a time.* Long description and large blocks of questions add to the cognitive complexity of the process, and stifle a team member's ability to share their expertise. Shortening the descriptions and limiting the number of questions, reduces the cognitive load and allows the person responding to the question to focus on a given topic.
2. *Make sure the question is clear and easy to understand, by checking with 2-3 people prior to posting the inquiry.* Oftentimes, we overestimate how clearly we are asking a question, simply because we are focused on the type of response we are expecting. Having others review the question helps ensure the intent of the question is clear.
3. *To elicit stories and tacit expertise, phrase some questions as "Can you think of a time when X, what happened? What would you do differently next time?"* People have difficulty being able to unpack and share their expertise, and it is up to the facilitator to enable them to do this successfully. For example, if you ask people how they make decisions, they are not able to process or answer this question. On the other hand, if you ask them to tell you a story about a challenging decision they made, they are able to do this, and you get insight into how they actually make decisions in real situations.
4. *Specify a number.* When asked for feedback on a large topic, people can feel overwhelmed by the enormity of the task and become crippled from answering. Giving a finite number makes a request seem more feasible. For example, ask "Based on your experience as a Transition Team Chief, what three pieces of advice would you give to the person taking your place?"
5. *Be as specific as possible and ask questions in context.* Asking someone about their hardest day seems like it would elicit great stories, but it is so wide open, we were often left with responses that were too general to capture and transfer expertise. For example, ask, "Tell us about your most challenging day working with your Iraqi counterpart." Helping a person focus on a specific event allows us to tap into their expertise and keep that expertise in context.
6. *Ask follow-up questions.* One problem with many CoPs, is that they become a place to post rather than discuss key topics. Having a facilitator asking follow-up questions adds to the richness of the

knowledge sharing experience and stimulates the discussion.

7. *Ask a variety of questions; some short and some in more depth.* Different people have different ways they cognitively process and respond to information. Some people enjoy telling stories, while others prefer to make a list. Providing differing formats allows for participation by a wider range of experts which enhances knowledge sharing.

Following these rules, we developed a new set of questions (See Table 2) to post on the Transition Team CoP.

Table 2 Revised Questions	
1.	Were you able to influence your counterpart to adopt a course of action that he initially didn't agree with?
2.	Techniques & Actions <ol style="list-style-type: none"> a. If yes, what techniques did you use to influence him to adopt that course of action? b. If no, what actions of yours do you feel contributed to him not adopting that course of action?
3.	Can you think of a time when you discussed or attempted to discuss the quality of your counterpart's performance on a mission/task with him? Describe what happened.

These questions not only stimulated discussion by increasing the number of respondents, but also exponentially improved the quality and depth of those responses by providing a format that fostered natural cognitive processes. (Table 3).

Table 3: Examples of Soldier Responses	
1.	<p><i>One Soldier's Response to Question 1</i></p> <p>Gaining influence with my IA counterpart was, as eluded to above, a function of developing a relationship first and foremost, establishing a baseline of mutual respect and being sensitive to the IA culture. But the relationship isn't the proverbial key to the city. Some aspects of the Iraqi Army's culture are so deeply ingrained that they can't be changed in a single one year tour; i.e., officer privileges, NCO dis-empowerment, commander centric command climates, among several others.</p>

2. *One Soldier's Response to Question 2*

There isn't a clear yes or no.

- a. For instance; in helping our counterparts refine their tactical operations center, we were able to influence them by co-locating our team TOC which facilitated a discussion for improving situational awareness. Equally important in this event was the IA commanders open frustration with the ineffectiveness of his TOC. So individual example and demonstration were powerful influencers, assisted by the IA commanders directives. Our best tool for influencing was the provision of resources that they didn't have ready access to such as maps, dry erase boards and acetate. Unfortunately this transactional activity fosters a dependency relationship which is in the long term detrimental.
- b. In some ways we were unable to influence their performance because we couldn't enable change of the culture of their Army in regards to their NCO Corps. I suspect that we were also unable to influence our counterparts, particularly in the conduct of aggressive offensive operations against Shia based militias because we were suggesting that they target individuals with the same religious beliefs. I felt that we as foreigners were exceeding the boundaries of our relatively new relationship. This led to suspicions that we were playing a shell game with the IA, especially when it came to combat operations. They were often prone to tell us what we wanted to hear, but as we would dig into some details their story would change.

While this is only one illustration of the dramatic changes adding knowledge engineering and Cognitive Task Analysis principles to a CoP had, this was not an isolated account. As a result of these changes, we saw a dramatic rise in both the number of soldiers sharing knowledge on a consistent basis, and the learning transfer occurring as a result of the additional depth and richness. Since implementing these changes, we've seen a 62% increase in membership (768 new members and growing by more than 100 every month), which adds to the diversity of the potential expertise available to be shared. However, even more important than the numbers of new members, we've seen a 111% increase

in the number of discussions (different topics and issues discussed), and a 95% increase in the amount of usable knowledge posted (determined by the membership's self-reporting of success stories based directly on lessons they have learned from the CoP).

CONCLUSIONS

Traditional training methods have struggled to evolve rapidly enough to address the varied, dynamic, and continuously evolving organizations such as Transition Teams. Structured and facilitated Communities of Practice, coupled with proven knowledge engineering principles, provide a valuable learning environment for effectively eliciting, capturing, and transferring the expertise that is needed to keep pace with the rapidly changing and often unknown environment.

The simple Cognitive Task Analysis principles outlined in this paper added to the richness of a facilitated Community of Practice and offered a means to significantly improve tacit knowledge transfer not previously supported through other training mediums. The expertise elicited has proven to be of great benefit to both the team receiving the training as well as the trainers themselves, who often have never performed the duties they are teaching. The impact of the CTA research conducted with the Transition Teams has been so profound that the Army has integrated CTA training, along with basic knowledge elicitation skills, into the training required of military Community of Practice facilitators and knowledge management advisors assigned to units and Army Centers of Excellence.

As the political and tactical situation changes in Iraq and Afghanistan and coaching and mentoring of foreign forces grows in importance, the ability to rapidly share best practices and lessons learned will remain key to winning the learning competition referred to in US Army Counterinsurgency doctrine. Sharing and learning from the experiences of others enables Transition Teams to better focus their training efforts and build expertise by first understanding, then mentally practicing examples of "real-world" situations they may face. Having a method to rapidly identify, capture, and share tacit knowledge and then making that knowledge visible and easily accessible to all Transition Team members, whether in training or in theater, plays a vital role in developing and sustaining high performing Transition Teams.

ACKNOWLEDGEMENTS

The authors would like to thank COL James Galvin and the staff of the Battle Command Knowledge System for their guidance and support of this effort. We'd especially like to thank all of the Transition Team members both past and present who gave selflessly of their time, expertise, and service to help ensure the safety and success of their fellow soldiers

REFERENCES

- Cianciolo, A, Morris, R., Prevou, M., and Psozka, J. (2007) Using Digital Story Telling to Stimulate Discussions in Army Professional Forums, Proceedings of the Interservice/Interagency Training and Simulation and Education Conference, Orlando Fl.(4-6)
- Chi, M. T. H., Feltovich, P. J., & Glaser, R. (1981). Categorization and representation of physics problems by experts and novices. *Cognitive Science*, 5, 121-152.
- Crandall, B., & Getchell-Reiter, K. (1993). Critical decision method: A technique for eliciting concrete assessment indicators from the "intuition" of NICU nurses. *Advances in Nursing Sciences*, 16(1), 42-51.
- Dreyfus, H. L. (1972). *What computers can't do: A critique of artificial reason*. New York: Harper & Row.
- Dreyfus, H. L., & Dreyfus, S. E. (1986). *Mind over machine: The power of human intuitive expertise in the era of the computer*. New York: The Free Press.
- Hoffman, R. R., & Deffenbacher, K. A. (1992). A brief history of applied cognitive psychology. *Applied Cognitive Psychology*, 6, 1-48.
- Kite, J.R., Matson, C.L., & McConnell, R.A. (2006). So you are going to be on a MiTT: What do you need to know. *Field Artillery*, 38-42.
- Klein, G. A., Calderwood, R., & MacGregor, D. (1989). Critical decision method for eliciting knowledge. *IEEE Transactions on Systems, Man, and Cybernetics*, 19(3), 462-472.
- Klein, G. A., & Hoffman, R. (1993). Seeing the invisible: Perceptual/cognitive aspects of expertise. In M. Rabinowitz (Ed.) *Cognitive science foundations of instruction* (203-226). Mahwah, NJ: Lawrence Erlbaum & Associates.
- Klinger, D. W., & Gomes, M. G. (1993). A cognitive systems engineering application for interface design. *Proceedings of the Human Factors and Ergonomics Society 37th Annual Meeting*, 16-20.

- McConnell, R.A., Matson, C.L., & Clemmer, B.A. (2007). The MiTT and its "Human Terrain" : transitioning the Iraqi Army into the lead. *Field Artillery*, 11-14.
- Militello, L., & Lim, L. (1995). Patient assessment skills: Assessing early cues of necrotizing enterocolitis. *The Journal of Perinatal & Neonatal Nursing*, 9(2), 42-52.
- Prevou, M. (2008). Actionable Approaches for Developing Expertise through Communities of Practice. From his presentation at the Army Training and Support Distance Learning Workshop, Williamsburg VA, April 2008
- Prevou, M, and Wikoff, D (2001) Building Adaptive Leaders in an Execution-Centric Learning Environment. Proceedings for the Interservice/Interagency Training and Simulation and Education Conference Proceedings, 28 Nov 2001.
- Shanteau, J. (1985). *Psychological characteristics of expert decision makers* (Vol. 85). Manhattan, KS: Kansas State University.