COMPUTER SUPPORTED AND COLLABORATIVE CONFLICT RESOLUTION. SHALOM/SALAAM

Barb Stuart
(BSTUART@DNVR.USWEST.NET)

Center for LifeLong Learning and Design and Institute of Cognitive Science
University of Colorado, Boulder

Abstract

This work-in-progress presents a World Wide Web information space and environment for "making thinking public" and constructing a shared meaning, essential elements in both collaborative learning and conflict resolution. Nontraditional learners learn collaboratively as they study conflict resolution through the context, language, metaphors, and frames of two radically conflicting perspectives. The space encourages making explicit otherwise implicit values, beliefs and assumptions, reframing conflict and reflecting on conceptual change emerging from collaboration.

Introduction

Both collaborative learning and conflict resolution require clarifying mental models. In the emerging field of conflict resolution, theories about reframing conflict (Rothman, 1996, 1997; Dunford & Palmer, 1994) advocate that thinking be made public as a precursor to active conflict resolution. Rothman (1996) suggests that disputants rarely articulate the deeper significance of conflict to themselves, instead describing attributes and effects. Articulating deeply held values, beliefs and assumptions is a crucial first step towards effective collaborative learning in workplaces, classrooms and communities. In a community of practice (Brown & Duguid, 1991), learning is seen as a capacity for communally experienced situations, and the co-constructing of meaning and understanding, for individuals and groups (Roschelle, 1995). The Shalom project is designed to foster such a community of practice, focused on conflict resolution, the making of a shared meaning and collaborative learning.

The Shalom/Salaam project evolves from several earlier collaborations, one a text based simulation (Harel & Morgan, 1994) and another an ongoing collaboration with the Center for LifeLong Learning at the University of Colorado, in Boulder (Stuart, Perrone, & Harel, 1997). A World Wide Web information space and environment was designed to elicit mental models. The site focused attention on two polarized and radically different positions in the Middle East and invited students to make their thinking public, first individually and then collaboratively. The site captured asynchronous insights and observations, archiving them for later retrieval and examination.

Peter Senge of the MIT Sloan School of Management, and an advocate for the conceptual "learning organization," suggested clarifying mental models including images, values, beliefs and assumptions to facilitate group learning. Reflection and inquiry are required to understand the reasoning and attitudes that underlie human action (Senge, et al 1994 pp. 246). Bruner (1996) described a capacity for intersubjectivity, how humans come to know each other's minds, as a crucial cultural adaptation (p. 184). While there is much discussion about collaboration and communities of practice, there is little discussion about the tools that build such communities. One such tool for group learning, capacity building and making thinking public is dialogue. David Bohm, a physicist and colleague of Einstein's, describes dialogue as a

> stream of meaning flowing among us
> and through us and between us.
> This will make possible a flow of
> meaning in the whole group, out of
> which will emerge some new
> understanding. It's something new,
> which many not have been in the
> starting point at all. It's something

creative. And this shared meaning
is the "glue" or "cement" that holds
people and societies together.
(Bohm & Edwards, 1991 p. 35)

Shank (1993) proposes another tool useful for group learning and situated in a web discussion environment, the multilogue. In a dialogue, there is a sender, a receiver and often there is turn taking. A multilogue might consist of many senders and receivers, no turn taking, with any interested party contributing, without regard to rank or stature. In these conversations, abduction, the ability to reason from the experience at hand to construct meaning becomes increasingly important. Discussions on the net tend to be directed toward ideas and their implications, and toward "casting a frame of reference to render puzzling findings and notions as intelligible." The purpose is to foster shared understanding. There is no teacher or discussant to lead or orchestrate. Everyone has equal access to being heard (p. 6).

In management science, versions of the multilogue include the conversations at the water cooler or coffee pot as well as the collection of "customer murmurs." Japanese auto makers stationed a listener close to new vehicles on display. The car hoods and doors were open, inviting close inspection by potential customers. The listener gathered all the customer murmurs for distribution to the engineers, marketers and decision makers responsible for product improvement. Even the smallest voices were heard and valued as contributors. A multilogue pools knowledge across disciplines and boundaries. In this way, not only facts are shared but also ways of looking at the world. The abductive researcher gathers information and combines that information in bricolage fashion (Shank, 1993, pg. 7)

Herbert Kelman (1997), an expert in Israeli-Palestinian conflict resolution, identifies the small steps and nuances of mutual reassurance, the acknowledgments, symbolic gestures or confidence building measures that help to reduce fear. Using these collaborative tools, Kelman encourages parties in a conflict to develop a nonthreatening, deescalatory language and a shared view about a desirable future. His work with conflicting situations is developed to produce changes or transformations in the participants, more differentiated images of the enemy, a better understanding of the other's perspective and of their own priorities, and to generate new insights and ideas.

The Shalom/Salaam Website was designed to capture, archive and retrieve new ideas and insights.

By making public in this information space, ideas became concrete objects which could be linked, juxtaposed and redefined to contribute to shared meanings. In this work-in-progress, the insights and ideas were searched for metaphors or metaphorical construction. Cole (1997) suggests that sometimes a "weaving together" metaphor is essential when different elements of two systems, two discourses or two threads of context, recombine. This recombination reorganizes the system to create a new pattern. His point is that different metaphors provide access to different properties and moments of a process of sociocultural and individual change. (p. 335)

George Lakoff (1987) suggests that conceptual systems have different conceptual organizations, such differences are cognitively significant, and the understanding of another conceptual system on the basis of experience can occur without full translatability into any single system. Lakoff suggests that to translate two differing conceptual organizations into one, or both into a third, eliminates differences. (p. 351) But eliminating differences means that the underlying conflicts in values, beliefs and assumptions may not be made explicit, and may have no opportunity for resolution.

Recognizing the powerful role metaphors play in shaping understanding and meaning, Schon (1993) examined the use of metaphors that limit and constrain problem solving. When metaphors describe problems but constrain solutions, they are what Schon called a "frame conflict" and the solution, "frame restructuring." He argued that conflicts of frames cannot be resolved by reviewing the facts, as the facts are embedded in the metaphors used to describe the problem. Bolman & Deal (1991) suggested that the ability to shift from one conceptual frame to another provided a way to redefine situations so that they become manageable. (p. 37) Less effective managers and problem solvers seem to fix on one standpoint for interpreting events. (Morgan, 1986 p. 12) Recognizing the frames, language and metaphors of existing conflicts supports strategy selection for conflict resolution in other conflict settings and situations (Rothman, 1997). These perspectives all contribute to the theoretical grounding of the Shalom Project which is described in the following section.

The Shalom/Salaam Project

The World Wide Web information space designed for the Shalom project attempted to operationalize

many of the theories underpinning site construction. There were opportunities to make thinking public individually and collectively.

Seven current or former graduate students enrolled in a nine week course in Applied Individual and Group Dynamics participated in this project. Although students, all were employed in management positions with for profit and not for profit organizations. All attended school at night as nontraditional adult learners. They were all computer literate. A classroom environment was designed to provide authentic activities and to model a community of practice. During class, individuals and teams of students conducted experiential exercises taken from the required text Joining Together. Group Theory and Group Skills. (Johnson and Johnson, 1997)

In these classroom sessions, students actively constructed, conducted and debriefed exercises in collaboration, trust-building, communication, controversy and creativity. They acquired language and tools to develop a shared vocabulary to reflect, discuss, evaluate and think innovatively within a classroom community of practice. Students prepared reflective essays based on Kolb's theories of experiential learning. (Gunz, 1995) The essays required students to examine concrete theories, compare and contrast them to real life, real world applications and suggest new ways of thinking as a result of reconceptualizing the concrete terms. Students consciously experimented with making thinking public, as "trust is built through disclosing one's thoughts, ideas, conclusions and feelings and having the group members respond with acceptance, support and reciprocation of the disclosures". (Johnson and Johnson, 1997, p. 471) These activities prepared them to function as a community of practice while experimenting with the Shalom site.

Students started at a project overview on the Shalom WWW information site. The overview was a way for the site developers to make their own thinking public, showing theories and design issues that informed the site construction. One overview link was to Center for LifeLong Learning and Design (L3D) at the University of Colorado, Boulder. L3D and computer sciences staff and faculty work closely conducting human-computer research, designing conceptual frameworks and computational artifacts as well as exploring "wicked problem solving". Another link suggested definitions of metaphors and their use in thought and reason. A third link described Vygotsky's Zone of Proximal Development (ZPD), and the creation of ZPD as the

interaction between students and co-participants in an activity, including the available tools and the selected practices, and depending on the nature and quality of the interaction as much as the upper limits of the learner's capability. (Wells, 1995)

After reviewing the links provided as scaffolding or grounding, students reviewed the two polarized and extreme positions, then prepared and submitted by electronic mail, a narrative observation of the sites. The sites were selected on the World Wide Web from hundreds of candidates and in particular because these two views of Israeli-Palestinian issues represented two starkly differing conceptual organizations. The sites were the homepages of the Islamic Association of Palestine (IAP) and the Information Regarding Israeli Security (IRIS) site. The IAP site included multimedia links, tapes and video. The IRIS site included numerous graphs and charts. Both sites were contextually rich, recording the histories of disputed lands in the Middle East.

The participants initial individual observations revealed limited knowledge of these two conflicted and polarized positions, stakeholders, or the details of the problem, demonstrating that this is a new conceptual domain for many of the participants. This "new" conceptual domain is significant as a key element in Vygotsky's thinking was that learners learn to do things with other that they can later do alone. After students reviewed their colleagues' work, they noted that many seemed to be novices about this Middle East situation, but some were more expert than others in their observations.

Data Collection and Analysis

Individualistic responses were examined and compared to Lakoff's (1987) concepts of metaphors. For example, in Lakoff's embodiment metaphor, thought is meaningful and derives from things known or experienced in the body. The core of perceptual systems is directly grounded in perception, body movement and experience of a physical and social character. (p. xvi) A metaphor provides a map from one "known" conceptual organization to another.

Several pilot project participants used metaphors or metaphorical expressions to understand an abstract or unstructured subject matter in terms of a more concrete subject matter. One respondent noted a 'tug of war' mapping the dispute into an experience of a very serious game and children fighting over toys. Lakoff describes the American penchant for creating a metaphor for developing nations as children, while the United States serves in the role of parent.

Sample metaphor construction and use from first round of individual student responses:

EMBODIMENT
The discussion of destruction, the bombs and PLO intentions painted a picture...
Palestinian site sent messages to the heart with stories, newscasts and music. The Israeli site sent messages to the head with graphs and charts.

WAR
...both sides are FIGHTING for Peace
...combatants towards peace

DEVELOPING NATIONS AS CHILDREN NEEDING A PARENT
...It reminds me of children playing. Everyone is happy. Then, one child wants the toy truck that the other child is playing with. They both fight for it. One child tugs on the truck bed and the other grabs the truck cab...

VEHICLE METAPHOR
Both group's religion's essence is peace, but they have not found the vehicle to get there
...driving a wedge

In the second round of collected observations, participants reviewed each other's observations. They reiterated colleagues' words and language, saying that they didn't notice or make this same connection in the first round of review. To these metaphors were added metaphors relating to the collaborative practices of the site. Participants comments included:

DEVELOPING NATIONS AS CHILDREN
This hot headed situation has escalated where no parental figure can step in...Would they still be fighting if other countries stayed out of their business?

COLLABORATION
It is amazing how everyone can say the same idea but in a different manner, or using a different analogy. Yet, we understand what the person is saying...The comment about targeting the head or the heart was something I missed completely when I read the sites Another one that struck me was about women and the issues they face. Again, something I missed.

Others had documented items I had noted but not included in my response, thus making me feel "on the same page".

I thought I hit the nail on the head, but it was only my nail, and my hammer. Everyone else brought a brand new nail and helped me build my thinking palace.

Analysis and Future Research Issues

The task for human and computer interface designers, educators and cognitive scientists is to determine how to create spaces that invite reflection, introspection, and the articulation of closely held beliefs, values and assumptions, and opportunities for shared making of meaning, in egalitarian environments. Several metaphors or observations surfaced in the second and final round of the work suggesting the AHA! experience of being informed or reminded by others' comment.

A next task could be to organize a section on metaphors and ask participants to suggest which new, or third conceptual frame might be useful in a discussion with the two conflicting site representatives. A glossary of common language, gestures, signs or symbols could be compiled to begin to decelerate this conflict. A similar glossary is being developed for the concept of knowledge construction (Ostwald, 1996).Participants could write comments on each other's work, or link to pages which further clarify the implicit values, beliefs and assumptions underpinning the two opposing sites, using emerging technology being developed at the Center for LifeLong Learning and Design in Boulder.

In a more global view, discerning the unexamined metaphors created by this and other cultures is a valuable tool (Kritek, 1997). The WAR metaphor articulated by Lakoff is central in this culture and not hard to document. There are TARGET MARKETS, we LOSE BATTLES, seem always to be UNDER THE GUN and so must HIT THE GROUND RUNNING. Our bodies DEFENSES are lowered and we WAGE WARS on poverty, drugs and violence. There are PEACEMAKER weapons and PEACE-KEEPING FORCES. Recently an ad recruited staff for the PEACE SUN program, highlighting F-15 opportunities in Saudi Arabia, maintaining the balance of peace in the Middle East. Skills in weapons and avionics are a must.

Humanity finds combat a hard habit to break according to the American Psychological Society. (Sleek, 1996) The world is entrenched in belligerence and economies thriving on military industries. On a psychological level, the martial mindset emanates from notions of patriarchy, ethnic superiority and social dominance. Observing and articulating these

metaphors in other cultures becomes a reflective tool for articulating individual, deeply held, and often unrecognized mental models, defining how individuals and groups interact. Once recognized the conceptual frames used in group interactions can change to foster more collaborate endeavors and learning.

The United States Institute of Peace conducted a simulation of a diplomatic negotiation between Israel and Syria, using subject matter experts representing various interest groups. The revelation within the simulation was that there was a much broader socio-psychological interpretation of the term security than expected. Researchers found that attitudes, perceptions, values, needs, and fears are as real as economic conditions, geopolitical considerations and military capabilities. (Rasmussen & Oakley, 1992)

Computer supported collaborative conflict resolution can provide the essential platform and starting place for negotiating new world views, shared meaning and learning. There is little empirical evidence to show the power of reframing, introspection and reflection in conflict resolution. An environment designed to capture these insights can begin to build a repository of evidence and a context for assessment of collaborative conflict resolution strategies. Students and professionals concerned about effective collaboration and conflict resolution can combine theory and practice to examine deeply held mental models. Within respectful and collaborative communities of practice, these tacit models can be articulated, and ultimately challenged. Douglas C. Engelbart, the originator of the mouse and hypertext, describing the next frontier said

> Projects and task forces aren't enough, and all the tools and technology in the world won't help if people aren't around to extract their lessons and convert them into better ways of getting better. For that, you need to talk about communities. (Stewart, 1966)

The Shalom pilot is designed without threshold or ceiling, for experts and novices alike. It offers an opportunity to co-construct a shared meaning. Users come to know each others' minds and practice conflict resolution skills like reframing, reflection, and collaborative learning. It proposes interactive conceptual organization and mental mapping for collaboration and community building, skills too many know too little about.

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