



SHALOM/SALAAM

Interactive Conflict Resolution in a Community of Practice

"The Global Communications Revolution and International Conflict Management"

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Computationalism, to its great credit, is interested in any and all ways in which information is organized and used....Culturalism, on the other hand, concentrates exclusively on how human beings in cultural communities create and transform things. (Bruner, 1996)

Information technology (IT) is under attack! Some experts believe that IT generates more data with less relevance for management problems at hand. Managers get reports measured in stack-feet per month. No one can read or digest all the reports. No one knows what is in all this data, what is really important, or how to get to it. Equipment is hard to choose, install, maintain and operate. No two systems are alike, and almost all systems are arcane and complex. This describes large corporate IT systems; the situation with personal computers is even worse.

The reliance on traditional design and engineering models is insufficient for tools for the intellectual work of today. Tom Landauer, former director of Cognitive Science Research at Bellcore and Professor of Psychology at the University of Colorado says that computers do things that are irrelevant or even detrimental to true productivity. While psychological science provides some advances in understanding human behavior, they are in limited domains, attached to narrow problems and studied in the laboratory. Significantly, Landauer asserts that technological advances most often come from accumulated practical wisdom. (Landauer, 1995)

If this is the case in straight forward computational applications, what hope is there for information processing software and technology to support "wicked" problem solving? "Wicked" problems are ambiguous, emergent and frequently shaped by the unspoken values, beliefs and assumptions of stakeholders and their cultures. These cultural definitions are shaping the issues of international competition, economics and politics. Francis Fukayama, scholar, analyst and author, suggests that it is vital to attain a deeper understanding of cultural distinctions and especially an ability to maintain what Nietzsche called a shared "language of good and evil." A shared, or common language is critical to the creation of trust, and the social capital that rests on cultural roots. (Fukayama, 1995)

SHALOM/SALAAM: Interactive Conflict Resolution In A Community Of Practice, seeks to create a common language and shared understanding about conflicted situations in the Middle East. It is a collaboration among faculty, students, scientists and business colleagues from around the globe, concerned about conflict, concerned about violence and concerned about sustainable culture. This interactive workspace will collect the common metaphors, stories and top-of-the-mind analogies of participants, the "language of good and evil". It is an effort to foster that deeper understanding of cultures in conflict, using much of what we know and what we learn from stories as narrative mental models. "Socially elaborated and sanctioned stories constitute the cognitive structures that hold a culture together", according to Kintsch et al, in Principles of Learning in Multimedia Educational Systems.

Douglas Engelbart, the inventor of the mouse, groupware and hypertext, describes the next frontier as "how to improve mankind's ability to deal collectively with complex problems". He identifies communities as necessary elements:

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, 1996)

Engelbart describes increasing the effectiveness of knowledge transfer, developing effective pilot projects and prototypes, getting them up faster and replicating them better. MIT Media Lab scientists also study communities and ways to weave information technology into a community's social fabric, create communities of interest and enhance community introspection (<http://isj.www.media.mit.edu/projects/isj/SectionB/367.htm>).

In his book Collective Intelligence in Computer Based Collaboration, J.B. Smith draws heavily on research from cognitive and computer science. He shows that "cognitive processes are often closely, even fundamentally entwined with social processes...and require integrating other disciplines including anthropology, ethnography, management science, organizational theory, economics, sociology, social psychology, speech communication and the study of small groups." He suggests that the increasing tendency of organizations encouraging more flexible combinations and teams is driving collaboration to become the predominant form of intellectual work. (Smith, 1994 pp. xii)

SHALOM/SALAAM: Interactive Conflict Resolution In A Community Of Practice is being designed as a collaborative "knowledge-building community" where the knowledge building activities of the group, as a collective (Scardamalia & Bereiter, 1991, p. 38) define a Zone of Proximal Development or ZPD. Russian educator and psychologist, Lev Vygotsky describes ZPD as the difference between individual problem solving and potential development through problem solving with guidance or in collaboration

with more competent "others." In SHALOM/SALAAM, cross cultural data reflected on the World Wide Web (WWW), computational tools and artifacts, collaborating peers and experts may all be used as more competent "others," to inform and support conflict resolution.

The Middle East offers cultural and historic conflict for study and reflection. Both novices and experts will use the site, some as novices to the facts of Middle East conflict, but subject matter experts in the fields of conflict resolution, activity theory, management science and cognitive science. Designed as an information space without threshold or ceiling, for experts and novices alike, it offers an opportunity for co-construction of knowledge. Users will come to know each other's minds. Users may practice conflict resolution skills like reframing (Dunford & Palmer, 1995), reflection, taking multiple perspectives, generative and systems thinking. (Senge, 1994)

SHALOM/SALAAM is being designed to recognize the relationship between constructing artifacts and constructing shared understanding among people. Like the two hands drawing each other in M.C. Escher's work "Drawing Hands", building artifacts and building shared understanding each seem to give rise to the other and at the same time, can be the product of the other (Ostwald, 1996). A WebQuest software environment combines a simulation construction environment based on the Agentsheets authoring substrate with the research resources of the World Wide Web. It was designed at the University of Colorado - Boulder to use information found on the web to inform the process of creating, exploring and changing programmable simulations. It is an artifact for reflection, revision extension or sharing or data. Several groups of middle school students use WebQuest, and it is being adapted for SHALOM/SALAAM.

Some educational theorists say that tools - including cognitive artifacts - are created at a particular moment in the history of a culture, in response to the demands of the activity in which they are used, and continue to be modified, in use, by those who continue the activity. According to Gordon Wells, "ZPD is created at the interaction between the students and the co-participants in an activity, including available tools and the selected practices, and depends on the nature and quality of that interaction as much as the upper limits of the learner's capability" (Wells, p. 4). Leont'ev said "higher psychological processes unique to humans can be acquired only through interaction with others, that is, through interpsychological processes that only later will begin to be carried out later in the individual." (Leont'ev, 1981, p. 56)

This focus on collaboration and community is in stark contrast to many of the approaches of cognitive science with its emphasis on individual cognition, controlled experiments, algorithms and quantification. Yasmin Kafai (1995) in Minds in Play, describes the convergence of learning and design of information processing as a context for building knowledge structures. She describes design as making, building or programming something. Theorists interested in design frequently consider a final product all important, while a learning theorist may focus on the process that leads to the final product. Their common interest in information processing moves design and learning theory closer together. Both designers and learners "construct meaning" when they build, design or understand something and both learning and designing are conceptualized as processes of problem solving. (Kafai, 1995 pp.15)

Management scientists at MIT's Sloan School of Management, at the Center of Organizational Learning, also study the making of meaning and the process of making thinking public. They describe mental models as the images, assumptions and stories carried in our minds of ourselves, other people, institutions and everyday life. These mental maps are the navigational tools for humans - tacit, existing

below the surface, and require reflection and inquiry. The techniques advocated evolved from theorists and educators like Chris Argyris and Donald Schon and explore the reasoning and attitudes that underlie human action. (Senge, et al, 1994 pp. 246)

To enhance group learning, Peter Senge (Senge, 1994 p. 6) suggests a focus on reflection, clarifying and improving mental models, developing shared images, transforming individual thinking to collective conversation and thinking, and developing a language to describe the interrelatedness of aspects of a system. "Making thinking public" is a common phrase in management, educational and psychological literature. Bruner (1996) describes the human capacity for intersubjectivity [how humans come to know each other's minds] as a crucial cultural adaptation. (p. 184)

In this same vein, Bereiter and Scardamalia describe the constructivist notion that knowledge is produced within the mind through the mental activities of the learner. They suggest that sociocultural theories offer a conception of knowledge that inheres in cultural practice and artifact that cannot be reduced to either the contents or the capabilities of individual minds. Their research in computer-aided classrooms and database construction, surfaces critical issues in the differences between learning, which is directed toward changes in one's own world and knowledge building, or developing a principle or theory that makes sense of observations. For them, Popper articulately summarizes their point:

What I suggest is that we can grasp a theory only by trying to reinvent it or to reconstruct it and by trying it out, with the help of our imagination, all the consequences of the theory which seem to us to be interesting and important...

These authors cite Drucker's concern that education will have a crucial role in determining how successful societies are when negotiating a shift from manufacturing-based to knowledge-based economies. They suggest that successful societies will be those whose citizens are most adept at creating and elaborating the uses of new knowledge. (Bereiter & Scardamalia, 1996)

A community of practice, originating with the Institute for Research on Learning (IRL), is especially well suited for new, complex and/or implicit knowledge. One learns by becoming a member of the community and collaborative problem solving. The IRL, founded in 1987 as a spin-off of Xerox's Palo Alto Research Center, has a mission of studying how people learn. Their fundamental finding is that learning is social and happens in groups. One definition of a community of practice is a group of people who are informally bound to one another by exposure to a common class of problem, and by the learning they do over time. The IRL believes:

- That all human beings are born with the desire and the ability to learn.
- That learning is an important means by which people function together in communities.
- That learning is fundamentally social, motivated by engagement and participation in practice.
- That the strength of institutions depends on the strength of the communities they foster.

At Nynex, James Euchner, Vice President in Research & Development, wondered why some groups adopted new technologies quickly and others did not. He hired an anthropologist who found that some departments did not communicate informally and, as a result did not understand one another's roles and needs or solve problems together. When placed in the same room, they created an environment around various tasks, which evolved into a community of practice. (Stewart, 1996)

The SHALOM/SALAAM community of practice is being designed as an electronic learning organization, using Bohm's theories of a dialogue as a foundation, and email technology to archive and distribute discourse. David Bohm, a physicist and colleague of Einstein, described mental processes as "unbroken wholeness." He proposed the use of dialogue to explore this wholeness, and to make shared meaning or to construct knowledge. With dialogue, he said, there is 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 may 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)

TECHNICAL APPROACH

A Webquest and Agentsheets prototypical model was used to construct a dynamic map of the Middle East, capable of changing to show the consequences of various user suggestions. In the simulation, a SHALOM/SALAAM Board will review suggested WWW sites, format and construction, with a goal of developing a balanced information space. The Board will invite a team of development consultants (users) to assess peacemaking in the Middle East. Each consultant will complete a brief, on-line interview about current knowledge of Middle East conflict and peacemaking and to suggest a top-of-the-mind metaphor, story or analogy. One supposition is that the myths, stories and metaphors of cultures are handed down generation after generation without reflection. These mental models inform and direct decision making, problem solving and conflict resolution.

A map will be displayed of stakeholders in the region, including Lebanon, Syria, Jordan, Israel, Egypt and occupied, formerly Palestinian territories. Each consultant will review stakeholder files by a click-and-point dialogue box listing bullet points of socioeconomic and demographic data. They may research hypertext links included in each file and ask for additional data. Each consultant's work, metaphors, questions and suppositions will be emailed to a central information space, compiled, coded and then redistributed to all participants.

Special attention will be paid to the metaphors and analogies collected, as, in the words of Lakoff, (1993, p. 208) metaphors are "not just a matter of language, but of thought and reason". Although the study of metaphor is continuously under attack as lacking in scientific rigor, humans continually learn, reevaluate and modify metaphors. In an elegant elaboration of Vice President Al Gore's use of metaphor to describe the information superhighway, Rohrer describes the power of metaphor to shape policy. Rohrer suggests that metaphorical inferences produce parallel knowledge structures and describes the transformative power of the information highway as an agent of social change. (Rohrer, 1997)

Thomas Jefferson said

I know of no safe depository of the ultimate powers of the society but the people themselves, and if we think them not enlightened enough to exercise their control with a wholesome discretion, the remedy is not to take it from them, but to inform their discretion.

In this age of the information overload and life that races along at laser-like speed, it is increasingly difficult for the people to be well informed and to keep up with emergent developments. Global

communications, focused on important and essential matters, can transform the character of international relations and conflict, strengthen world peace processes, further cooperation and collaboration. Global communications can inform the people, teach the people and ultimately, preserve our knowledge and culture, building sustainable capacity and community for the future.

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The views expressed in this report do not necessarily reflect views of the United States Institute of Peace, which does not advocate particular policies.

This paper was prepared for the Virtual Diplomacy conference hosted by United States Institute of Peace in Washington, D.C. on April 1 and 2, 1997.