

# Layers of Learning: Facilitation in the Distributed Classroom

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## Abstract

*Distributed learning offers education beyond the walls of the traditional classroom. Students may not have the opportunity to ever interact as a whole class unit. They interact individually or as small sub-groups of the whole class in distributed sites. Understanding the dynamics of communication is important to the design of the distributed learning environment. Studies have focused on how computer-mediated communication de-individualizes single participants (Spears & Lea, 1990; Matheson & Zanna, 1988), but has not looked at the impact on groups of participants. The need for examining the impact of environments and social group identification is initiated in this study. Yet, more detailed analysis must be done in this area to understand how these factors will impact distributed education.*

Cooperative learning is a method that empowers the student to construct their own knowledge (Johnson, Johnson, & Smith, 1991). The method stresses a movement away from the static classroom where the instructor lectures to a passive audience of students. The goal of cooperative learning is to have the students actively create learning through participation in small structured group activities. Students interact with one another in an environment characterized by group support, individual accountability and interdependence. The method has reported success in increasing retention rates, producing higher level reasoning and critical thinking as well as increasing students' social skills (Johnson, Johnson, & Smith, 1991; Kagan, 1990).

A group support system (GSS) is a successful tool to support learning at the grade school, high school and university level (Alavi, 1994; Brandt & Briggs, 1995; Brandt & Lonsdale, 1996; Leidner & Fuller, 1996; Walsh et al., 1996). Collaborative learning environments supported with a GSS have increased student participation, raised student interest levels and increased student performance quality when compared with learning environments without GSS support. In these earlier studies, cooperative learning was applied to explore the benefits of GSS technology in a same time/same place classroom environment. This paper explores the impact of a GSS when used in a distributed classroom (same time/different place). The instructor and the facilitator worked together to develop a distributed GSS environment which shaped the content of student group interactions and then used

the student's computer-mediated communication as a learning tool to illustrate concepts taught in the course.

A GSS is a technology well equipped to support the goals of cooperative learning. Simultaneous, parallel processing permits students to work interdependently - completing tasks individually and as a group (Brandt & Lonsdale, 1996). The GSS tools offer flexibility in how they are applied. The instructor can control how the students interact. Students may be grouped as an entire class, in small anonymous teams, or in identified teams.

The element of instructor control available in a GSS also supports the requirements of the cooperative learning method. Kagan (1990) points out that many instructors fear a loss of power in a decentralized classroom will result in unmanageable students. He counters that the cooperative student teams will self censor themselves provided they are well directed. Well-directed lessons, according to Kagan, require a high degree of instructor direction and the inclusion of multiple learning structures. There are several types of learning structures: team building, class building, communication building, information exchange, mastery and thinking skills. The rationale for the six structures is that each structure will impact the learning outcome differently and that a mix of structures is appropriate for fostering different types of cognitive development.

GSS technology is typically a suite of tools that support different types of information processing (Nunamaker, Dennis, Valacich, Vogel, & George,

1991). Using a GSS to support business meeting environments, a facilitator will apply these tools in a specific manner to aid the group in increasing its effectiveness (Schwartz, 1994). A facilitator will direct the group process to aid the group in achieving goals. There are several examples of facilitative direction: establishing ground rules, modifying dysfunctional group behaviors and increasing democratic participation. The facilitator selects strategies for shaping process. Strategies should be balanced to meet the needs of the group and to resolve their problems. These strategies are akin to the multiple learning structures Kagan (1990) employs for cooperative learning. Thus, the facilitator using a GSS for business meetings and the instructor employing a GSS to support learning will share similar orientation to the tools and to the group. Both the facilitator and instructor guide how the participants interact with each other by orchestrating the process and structure of the learning interaction.

Research on GSS facilitation has largely appropriated a conventional view of intervention that glosses over novel adaptations of technology in practical intervention circumstances. There is a need to extend current models of facilitator action. Instead of conceptualizing the facilitator or teacher as a meeting or classroom manager, the present work focuses on the facilitator as "sense-giver" (Gary, Bougon, & Donnellon, 1995). The sense-giver directs the process, points out salient information, and guides the interaction.

The decisions the instructor and the facilitator make define the structure of the group's interactions. They define the context for learning in the case of the student groups and in the case of business groups. This project considers how the facilitator contributes to sense-giving through the design of interaction spaces that enable groups to realize multiple goals, assimilate new information, and test assumptions. This paper reports two novel, theoretically guided, applications of computer supported facilitation in a distributed, synchronous learning environment based on the sense-giving conceptualization of facilitation.

#### **Designing learning environments**

The interventions reported in this paper were designed to help deliver an educational learning unit on the organization of disputes in electronic environments for an advanced small group communication course. The design of these strategies are instructive for the development of novel applications of GSSs for the management of disagreement and conflict in a distributed decision-making environments which are also educational experiences for university students. Normative pragmatics (van Eemeren, Grootendorst,

Jackson, & Jacobs, 1993) is the theoretical framework that informs the design of the facilitative interventions in the studies reported below. Normative pragmatics shows how descriptive and prescriptive theorizing can be integrated to explain behavior. In particular, it develops a model for resolving differences of opinion. The cases below demonstrate how particular ideal models of managing disagreement influences the substance of computer mediated discussions above and beyond the influence of any individual participant.

A basic assumption in the design of these strategies is that a GSS functions as a synthetic social context (Madison & Aakhus, 1994). Anonymity, parallel processing, organizational memory, and distributed communication features of a GSS enable the intentional design of communication contexts. Communicative action in an electronic environment can be orchestrated by setting these features in particular ways. There is no general theory, however, that explains and predicts how the manipulation of processes helps create particular kinds of discussion content or educational outcomes. But, generating an understanding of the relationship between process and content is an enormously important theoretical task for the development of both GSS facilitation and for insight into the role of the instructor in cooperative learning. Building an understanding of the impact of process on content is important applying Kagan's (1990) strategies for cooperative learning and flexible facilitation. The two case studies used, are intended to be a step in initiating more theoretical discussion about the relationship of intervention processes and the substance of interventions.

In both studies students participated in simulations based on research questions and were then challenged to develop answers to the research questions by analyzing their behaviors in the simulation. The students were put in the position of the researcher in order to discover knowledge of the concepts through their own behavior and analyses. An advanced small group communication class (n=30) was used in both study one and two. The distributed learning environment used GSS rooms which were located in separate buildings. Study two was conducted four weeks after study one. Study one used a GSS with GroupSystems V software and study two used GroupSystems for Windows. In learning environment one, students explored the question of how discussion framing impacts the substance of an interaction. In learning environment two, the students expanded how the social organization of groups in virtual environments impacted the nature of conflict that emerged in their interaction.

**Learning environment one: Framing and disputing**

The case in environment one was designed to illustrate how confirmatory biases affect the use of technical and numerical data in group decision-making discussions. Two groups will each get the same case (see appendix one). Group one's choices (Marketing & Sales group) will be framed from the perspective of potential technology users while group two's choices (MIS group) will be framed from a technology developer's perspective. The two groups are given the task of developing reasons to support an organizational policy.

They are then charged to create a joint organizational policy statement to be used by corporate executives in making the final implementation decision.

Both groups will be encouraged to reach a justified consensus regarding their position on the policy. In the intra-group decision situations, the MIS group meeting will be framed and intervened on to motivate the group to use the technical information to bolster their group position favoring implementation. The Marketing & Sales group meeting will be framed and intervened on to motivate the group to critically examine the technical information.

Each group has its own interests in the success of the proposal and its own reputation to maintain within the organization. Both groups will use a case that elicits a confirmatory bias in decision-making. The students will receive a description of past group opinion and evidence that appears to support the workability and desire for the proposed solution. The MIS group will be described as having a stronger interest in the implementation of the tool than the Marketing & Sales group. Both descriptions of the tool, however, are favorable towards its implementation.

These manipulations are designed to produce MIS group interaction that is uncritical towards the available numerical data and Marketing & Sales group communication that is critical toward the available numerical data. The groups will be given the opportunity to discuss their positions in a distributed meeting which will involve minimal facilitation. The joint discussion should reflect some disagreement that arises from each group's interpretation of the technical information. The Marketing & Sales group should be able to create doubt in the MIS group's reasons that are rooted in the confirmatory bias in the numerical information.

### **Procedure**

In study one the class is charged with developing an organizational policy after reading a case (appendix one). The agenda for the 75 minute meeting is as follows: verbal introduction to the exercise, read the scenario, textual discussion of implementation using

group outliner, then decide if implementation should occur using a voting tool.

The group was divided into two GSS rooms. One room had 24 user stations and two facilitator stations with 15 participants and the other room was in another building located a half mile across campus with 10 user stations and 10 participants. Two communication channels were used to connect the groups together. Computer-mediated communication, GroupSystems V, was used for textual interaction and two Polycom telephone conferencing systems were used for audio. The teleconferencing units were intended for the groups to use when they were working on a convergent consensus building task. The computer-mediated communication environment was intended to be used to exchange information, develop ideas for the group to evaluate, and poll the group for their rankings.

There was a facilitator in each room but the facilitator in the room with 24 work stations controlled tool usage. The facilitators in each of the rooms contributed anonymous comments to the group to frame the interaction and expose confirmatory bias.

The discussions from the meeting was saved and reproduced in an on-line assignment (see appendix two) using POLIS ([www.comm.arizona.edu](http://www.comm.arizona.edu)). POLIS is a world wide web based instructional tool developed in the Communication Department at the University of Arizona. A suite of instructional tools to support distributed learning make POLIS. The tools enable the design of interactive question-answer learning formats and develop information resources tailored to specific learning needs.

In the POLIS environment, the students analyzed the design of their interaction and their actual communication by answering four questions: (1) How did the problem framing differ between the MIS and Marketing & Sales problem description? (2) Explain how the different framings may have influenced the discussion content. (3) What differences exist between the way the two groups discussed the numerical data? (4) What differences are there between the facilitators comments used to influence the group discussion? (5) What strategies can group members use and groups adopt to encourage effective uses of information in group discussion? See the following web site (<http://wacky.ccit.arizona.edu/facdev-bin/LessonList?COM403>).

### **Results**

The joint discussion reflected disagreement based on group's interpretation of the technical information. The marketing group was able to create doubt in the MIS group's reasons by exploring the confirmatory bias in the numerical information. Example one is a group outliner with the students' answering, "Reasons

for/against implementing SalesUp. The second example illustrates how the facilitators were contributing to the group communication.

#### **Example one**

The number shows that it has been somewhat successful

- #1

The ratios are both the same

- #2

We need to have more test cases where we do not use it to make sure on these numbers

- #3

The numbers show that this tool has been used successfully.

- #4

The numbers have shown it to be somewhat successful, but there should be more testing done to be more conclusive.

- #5

From the numbers of groups who have tried it (200), 3/4 of the groups have succeeded with it. That's a substantial amount.

- #6

Cost effects need to be considered

- #7

A problem with the results is that the proportion of success for the use and non-use is the same. In other words four out of five people buy the water purification regardless of the SalesUp tool.

- #8

The test trial proved to be very successful. Also, with trying to establish a world-wide market, this tool would be worth the investment.

- #10

even though the numbers are the same the system has not been unsuccessfully tested

- #12

The test trials indicate that the tool is reliable.

- #13

The numbers failed are very low and so implementing this tool seems to be a wise idea.

- #14

If an accurate comparison is to be made between the users and non-users, there needs to be an equal amount of groups that are in the experiment. 3/4 of the groups in the non-users were also successful, but on a much smaller scale than the users.

- #15

Example two reports the facilitators anonymous comments made to the group regarding the case..

#### **Example two**

##### **Marketing and Sales facilitator comments**

#4 is wrong. The numbers do not indicate that the use of the SalesUp tool works.

- #33

Remember we are already successful. There is no need to add another tool if it is not going to work.

- #36

What is the proof that it will work in the worldwide market?

- #39

#38 how did you figure that the tool works? The ratio of tool use to non-use is the same in both successful and unsuccessful sales.

- #41

water purification is needed all over the world

- #45

##### **MIS facilitator comments**

What about the numbers? 160 success stories has to mean something? What are 3 strong advantages for implementing this technology?

1. It's cool
2. It's expensive
3. It's fun.

- #18

#18 how can we justify expensive? Is the company willing to PAY for fun? - # 23

#18 those are reasons that we typically give for adoption of new technology and they often get shot down. Can we come up with something more substantial? - # 28

#28 how do we know this is true? - #29

#29 what do you mean by true communication? - #32

In example two, the facilitators are asking questions regarding the case to help the group understand the issues at hand and promote disagreement between MIS and Sales and Marketing.

The students used the Website to analyze their behavior. They observed the differences in the discourse that were intended to be created by the design of the lesson.

##### **Learning environment two: Social context and disputing**

One important problem for understanding the management of conflict are settings where no one routine for handling grievances is generally preferred over another. In these situations, the methods for handling conflict actually contribute to the intensity of the conflict. Gender and cross-cultural conflict are paradigm cases of these settings. Participants in these

situations have typically learned different procedures and values for handling grievances. When these different orientations and practices of conflict management are brought to bear on handling a grievance, actions taken to manage conflict become ambiguous and frustrating to the parties. The relative ordering of normative boundaries differ among the participants is often invisible to them but serves to drive the escalation of the conflict and intensity of the grievances among the parties. For example, conflict between husbands and wives or ethnic groups all share this phenomenon. Universities also present an interesting case of this phenomenon of invisibility and escalation.

Typically, students in a large public university experience acting within and between differing social contexts. Three kinds of contexts seem to be commonly experience across the student population. First, there is the world of the student in the student body. Second, there is the student within standing groups such as gender roles. Third, there is the student acts within the university bureaucracy. There may be other contexts but the contexts described above are all relevant to students and typically require different, competing forms of behavior. The university, as with any organization, is a social context that requires competence at understanding that interactions occur on multiple shifting social contexts. Contexts range from highly individualistic settings to extremely bureaucratic, procedural settings (Black, 1984; Morrill, 1995). Many contexts do not correspond clearly with a single type and embody multiple contextual elements. For example, in the classroom students have to relate to each other personally, as classmates, as members of a particular gender, and as a collective classroom group.

In study two, the students explored how the social organization of discussion in virtual environments influence the nature of conflict in group discussion.

#### **Procedure**

Three different settings were created using a GSS. Each setting varies in the nature of the social relations set up. First, a setting that promotes individualistic responses and non-linear discussion was created by having students participate in same sex groups. Second, a setting where participants engage each other relative to a reference group was created by having students interact between gender based groups. Third, a setting where participants engage each other relative to an authority figure was created by having students participate with each other under the assumption that their interaction would be observed by an authority figure within the university system.

Male and female students were asked to go to two GSS rooms based on their sex. The students read a

sexual harassment case and were asked to electronically discuss their views for how the potential grievance in the case ought to be handled. These views lay the groundwork for the discussion content during each of three sessions.

The way the discussion participation is organized sets the tone for how conflict is managed within the discussion. How the students react to other students comments will be in part due to the way the discussion is set up. The analytic point of interest for the students is to see how each session creates a different style of conflict management among the participants. Session one should result in group styles, session two should result in vengeance style between the two groups, and session three should result in discipline and rebellion style of conflict management (see Black, 1984 and Morrill, 1995 for further discussion of these styles).

In session one, each student responded to a scenario regarding company policy on sexual harassment (see appendix three) using an electronic idea generation tool. This response could only be viewed by its author. Then the students were instructed to use an electronic discussion tool to develop a policy on how the company should address the sexual harassment case presented in the scenario. This policy development was done within the same sex groups, the female students only saw the ideas of other female students and the male students only saw the ideas of other male students.

In session two, students were identified with their gender based group and were encouraged to comment relative to their group membership. This identification was accomplished through the subgroup identification option in the GSS. All comments in this session were tagged with the gender group identifier. A separate session was also made available to each group for communication between only members of their sex.

In session three, students commented on the sexual harassment scenario with the instruction that their entire discussion can be made available to authority figures or the public. All participants worked to create a collective answer to the question which was to be shared with the student body via the newspaper, the faculty via the Chair of the Communication Department, and the Social College via the Dean. Students were debriefed after the third session and told their interaction would not be shared with anyone.

The distributed learning environment was divided across two rooms located in two different buildings about 3/4 of a mile apart from each other. In this environment, one group had 10 male participants in a room which has 10 stations and the other group had 12 female participants in a room which has 14 workstations and a facilitator station. Each group had

a male and female facilitator in the room respectively. The central facilitator was located in a third room. Two communication channels were used to connect the groups. Computer-mediated communication, through the GroupSystems for Windows tool, was used for textual interaction between the two groups and Polycom telephone conferencing systems were used in each of the GSS rooms along with a standard speaker phone in the room where the central facilitator was located.

The electronic discussions were reproduced for the class. The students own communication behavior provided the data for class discussion focused on the research question. The students used the data to identify the varieties of conflict behavior in the electronic discussion. They focussed on how their own conflict behavior responded to the context created by the GSS tools (see appendix four).

### **Results**

The results of the simulation show that conflict management behavior varies with the nature of the social context in which it occurs. The discourse in sessions two and three differ from session one and from each other in the following way. When disagreements arise between the groups in session two, each group has its own distinct conflict management style similar to session one. In session two, however, disagreement between the groups escalates in a distinct pattern. Each group's conflict management style contributes to the escalation of the disagreement because the style of one group aggravates the style of the other group. Each group orients toward normative violations they see the other group committing. In session three, the styles from sessions one and two carry over but any disagreeable behavior is handled differently. In the third session, some people behave in ways that appear to violate the purpose of the assignment. Those behaviors sanctioned with pressure from the majority as a violation of the assignment rules. Rather than seeking vengeance or escalating disagreements as in session two the collective style in session three is more bureaucratic. Essentially, those who step out of line are be scolded.

### **Discussion**

These simulations were designed as learning units that generated social data to be analyzed by the students. The students both experienced and analyzed the concepts they were learning. These learning environments were made possible by the technology but the environments were created through theories and ideas in social science. Executing these learning environments demonstrates many possibilities for cooperative learning and flexible facilitation. The findings are important but the strength of the claims

made based on these learning environments are preliminary and subject to refinement. The framing and disputing learning environment demonstrated that manipulating discussion premises directly affects the substance of the discussion. By focusing the participants to either take technical information for granted or to be critical of it, the intervention generated discourse that led to important differences in collective judgement. Example one, demonstrates that "consensus" varies with the discussion premises cultivated by the mode of intervention. Both groups reached consensus using the same materials, yet one group maintained its unwarranted belief in technical information.

The social context and disputing learning environment demonstrated that manipulating the structural resources for communication shaped the management of conflict. By using the technology to establish the availability of group members and communication channels, different contexts of disputing were created. The vengeance and bureaucratic contexts became clear to the students. Example two indicated that facilitators and/or instructors can help frame a group discussion without being obtrusive. Also the students' interaction can be used in class to illustrate how assertions are argued against and fore by the class. Then the class can use to example to develop counter arguments to defend the groups decision. In appendix two, we illustrate that the classes current interaction can be used in later classes and in distributed form to analyze communication behavior for issues discussed in class.

Learning environment two also demonstrated how variations in conflict management styles influences the substance of group discussions. In the second and third sessions groups were oriented more towards their collective identities than the reasonableness of their messages. However, in the second session participants focused on promoting their gender, while in the third session participants oriented toward the appropriateness of their message relative to the authority.

### **Implications Distributed Learning**

The method by which GSS technology was applied in this study, synchronously and across distances, was selected to manipulate the communication environment. The isolation of the gender groups in learning environment two allowed the creation of meaningful social groups.

How the students responded to their social groups and how identification with those groups impacted group communication was the educational outcome for the class. Again, students looked at there own communication behavior to understand such issues as

conflict management style or language style (Adkins & Brashers, 1995).

These studies demonstrate how qualitatively different kinds of virtual learning spaces can be created. The idealizations held for interaction among participants in virtual environment are critical to the qualities of the interaction realized. These studies demonstrate the possibility that a learning environment can simulate experiences students may otherwise never experience (i.e., experiencing vengeance when the student has only engaged in conflict by avoidance).

These studies also realized the power of virtual learning environments for helping guide students' reflective learning experience. The use of web technologies like POLIS and the use of collaborative tools found in a GSS enabled students to reflect on their own behavior in order to make abstract concepts tangible. This experience is difficult to create in a traditional classroom due to the limitations of video recording or audio tape recording and transcribing interactions. The GSS tools allowed students create the very experience they analyzed resulting in a more visceral and a more cognitive educational experience.

#### **Learning Through Sensemaking**

Weick (1995) argues that how people organize themselves, how they resolve uncertainty and ambiguity, and discover meanings is controllable. Sensemaking refers to how meaning is constructed at both the individual and at the group levels. Through the construction of meaning, clarity increases and confusion decreases. The decrease of confusion leads to higher productivity, greater quality, and greater confidence in group processes. These outcomes are applicable to all group processes whether they be in a boardroom or in a classroom.

Leadership provides a method for guiding the development of meaning (Thayer, 1988). The leader blends the delivery of facts with the development of a context to frame them. In the two examples discussed, leadership is provided through the facilitator. The facilitator structured the students' experience and guided them to discovery and understanding. The facilitator fulfills the role of sense-giver. This role has significant implications in organizations. Training and development, organizational learning, and decision making can all be enhanced through the application of sensemaking. Any experience that can embody ambiguity or confusion can benefit from sensemaking.

Weick (1995) identifies several sensemaking practices. These practices are guidelines, not hard prescriptions. Sensemaking is idiosyncratic - it adapts to fit individual needs. One of the suggested practices is the encouragement of shared experience. Organizational culture is reinforced through the

development of shared thought. Culture is defined through creating a group language and participation in a group experience. The use of a GSS in a structured environment provided a mechanism for sharing thought and building shared understanding. The technology encouraged free interactions through supporting anonymous and parallel communication (Nunamaker, et. al.1991).

Leadership provides definition by drawing attention to certain aspects of members' experience and shaping a shared meaning (Smircich & Morgan, 1982). While the facilitator served as leader, defining the meaning, the students' ideas and interactions built the experience itself. A follow-on study should examine the educational impact of this approach through measuring effectiveness and student retention of the material.

#### **Facilitation**

From the central facilitators perspective distributed environments provide several challenges. First there is a technological challenge in the area of communication. In each of the distributed environments it was discovered that there was a need for a back channel communication medium. The back channel communication was needed between the facilitators in study one to find out if participants were still typing before a tool change or to discuss how the interaction was going. In study one back channel communication in study one was accomplished by using two cellular phones so the teleconferencing lines could be kept open.

In study two the back channel communication was required to talk between the facilitators in each of the three rooms and by the central facilitator to talk with one of the group rooms without interfering with the other. In order to talk with each group separately the central facilitator used two separate speaker phones and the mute button to control the communication to the participants in each room. Private communication between the facilitators in each of rooms was difficult. The central facilitator would have to ask the facilitators in each of the GSS rooms to disconnect the teleconferencing unit and attach a standard phone for private interaction.

Ultimately a distributed environment should provide the opportunity for front channel and back channel communication. In an ideal situation front channel communication would be provide using a teleconferencing system with gated microphones for each of the participants and the facilitators. Back channel communication should be provided to the facilitators in the separate rooms by either audio or textual media. Though this study did not review the opportunity for synchronous computer-mediated communication it should be looked at as an option for

back channel communication. The back channel communication is critical for the facilitators to coordinate activities, monitor group processes, and decide when to implement a change in the process.

Second, facilitators were challenged because they directly grappled with the dilemma of facilitator influence. The two learning environments were created to explicitly direct the content of the discussion in a particular manner. The facilitators had a significant impact on the participants' ability to make sense of the learning environment. Message contribution by the facilitators influenced the substance of the discussion. It is widely held that facilitators manage process while not interfering with the content of the discussion. Brashers, Adkins, and Meyers (1995) report that a facilitator's communication during a group meeting has an impact on the content of a group's meeting. The actions taken in this study are a step toward understanding the nature of facilitator influence on substantive interaction through the manipulation of processes.

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**Appendix one**

**MIS group**

You are members of the Management Information Systems (MIS) group for a mid-size firm in the Southwestern United States that sells water purification systems. Your group is located in Tucson, Arizona. This MIS group is charged by the CEO to implement information technologies that will improve organizational performance. This group has generally been successful at meeting its charge.

Your group, in cooperation with the Marketing Group located in Phoenix, has recently tested a sales/marketing technology called SalesUp. The SalesUp tool helps marketing representatives to demonstrate company products to potential clients. The tool helps marketing reps incorporate company information and audio-visual materials into their presentations to clients.

Your group is very excited about the possibilities of implementing this new tool throughout the organization because of the results from the trial tests. The SalesUp tool was either used or not used in 250 recent successful or failed sales attempts. The following chart indicates the relationship of using the SalesUp tool to the success of the sale.

| Use of the SalesUp Tool |     |         |
|-------------------------|-----|---------|
|                         | Use | No-Used |
| Successful              | 160 | 40      |
| Failed                  | 40  | 40      |

Prior to this meeting the group members have been in favor of implementing the SalesUp tool throughout the organization.

Today you are meeting for two reasons. First, your group must be able to justify the use of the tool since it will be expensive to implement. Your group needs to generate its own reasons to justify whether or not the SalesUp tool should be implemented. Second, your group will participate in a distributed meeting with the

MIS group located in Tucson to begin developing a joint policy statement regarding the implementation of the SalesUp tool.

When the policy statement is eventually created it must unequivocally indicate to Company Executives what should be done with the SalesUp tool. The groups may not finish the policy statement in this meeting so another meeting is scheduled in which to complete the task. Your group would like to work on the implementation of SalesUp because the members like the tool and it could turn into a high profile project within the organization.

**Marketing & Sales group**

You are members of the Marketing group for a mid-size firm in the Southwestern United States that sells water purification systems. Your group is located in Phoenix. This Marketing group is charged by the CEO to secure the major portion of the Southwestern water purification market and then establish a significant niche in the world-wide water purification market. This group has nearly achieved the goal of securing the Southwest market and is about to aggressively embark on establishing a world-wide market. Your group, in cooperation with the Management Information Systems group located in Tucson, has recently tested a sales/marketing technology called SalesUp. The SalesUp tool helps marketing representatives to demonstrate company products to potential clients. The tool helps marketing reps incorporate company information and audio-visual materials into their presentations to clients. Your group is very excited about the possibilities of using this new tool throughout the organization because of the results from the trial tests.

The SalesUp tool was either used or not used in 250 recent successful or failed sales attempts. The following chart indicates the relationship of using the SalesUp tool to the success of a sale.

| Use of the SalesUp Tool |     |         |
|-------------------------|-----|---------|
|                         | Use | No-Used |
| Successful              | 160 | 40      |
| Failed                  | 40  | 40      |

Prior to this meeting the group members have been in favor of implementing the SalesUp tool throughout the organization.

Today you are meeting for two reasons. First, your group must be able to justify the use of the tool since it will take a significant organizational effort and cost to implement the tool. Your group needs to generate

its own reasons to justify whether or not the SalesUp tool should be implemented. Second, your group will participate in a distributed meeting with the MIS group located in Tucson to begin developing a joint policy statement regarding the implementation of the SalesUp tool.

When the policy statement is eventually created, it must unequivocally indicate what should be done with the SalesUp tool to Company Executives. The groups may not finish the policy statement in this meeting so another meeting is scheduled in which to complete the task. Your group would like to use SalesUp if it really works. If it turns out that the SalesUp tool does not work, the marketing group will be able to continue its success in achieving its goals.

### **Appendix two POLIS exercise**

In our class session on October 17, the class was divided into two groups: MIS (management information systems) and Marketing & Sales. Both groups were given the same two tasks. The first task was to develop reasons in support of a course of action to be taken by a hypothetical organization. The second task was to engage in a joint discussion with the other group to develop a joint-policy statement for the organization. Both group tasks focused on whether or not a new information technology, SalesUp, should be implemented in the organization.

This assignment had two primary purposes. First, to demonstrate how groups use information in decision-making tasks and second, to demonstrate features of distributed decision-making. Today's on-line discussion will focus on the uses of information. We will talk about distributed meetings in class.

Some things to do to make this activity go well. First, read everything. The highlighted keys are links to supporting information and data for you to think about before answering any questions. You may want to write down some notes about what you would like to say before answering the questions. Second, when you select a question to answer you will be take to an area in POLIS. To get back you should use the backup icon (if you are in Netscape) or the left arrow key if you are in Lynx. If you get lost, just go back to the Center for Group Communication and select the argumentation management assignment. Third, you may go back and answer the POLIS questions as many times as you like. Be sure to look at what your classmates have to say.

### **Framing**

Framing refers to the way a situation is set up so that people attend to certain features and do not attend to other features. Framing helps people focus joint

activities, like decision-making, to a few streams of action and thus helps to keep communication understandable. Look at the case descriptions and you will notice that both descriptions are similar except for a few differences. How did the framing of the problem differ for MIS and Marketing & Sales? (When you select this question you will be linked to POLIS, don't forget to come back to this page by using the left-arrow key or the back-up icon to continue the assignment.) You may also have noticed how the whole description frames the activity in addition to this one difference. While there were a number of different topics picked up in your distributed meeting, including some digressions, examine how the MIS and Marketing and Sales groups used or talked about the numerical data in the distributed meeting. Think back to how the meetings were framed and then explain how the different framings may have influenced the discussion content. (Remember to come back from POLIS to continue). Framing seems to set up assumptions and premises on which the decision will take place. We should be careful about how framing influences the way we pay attention to the matters of a discussion.

### **Confirmatory bias**

A confirmatory bias exists when people examine evidence in a manner that serves to justify a position that they already hold rather than using the information to try to disconfirm what they hold to be true. Quite simply, people overwhelmingly tend to seek out information that confirms what they already believe. Confirmatory biases become a problem when a group is not careful in how it critically examines the information it is using in its decision making discussions.

The data presented in the case was designed to show a relationship between the use of the SalesUp tool and the success of sales. You may recall from the case that in 250 recent sales the SalesUp tool was used in some sales but not in others. The results were presented in the following table (same table as in appendix one):

So, an important question to answer in determining whether or not the implementation of SalesUp should go ahead, is to find out if the presence of the tool leads to more sales successes than there would be otherwise. The answer is "no." No matter how you look at these numbers there is a four out five chance that the salesperson will have a successful sale. In terms of sales success, it does not matter if the SalesUp tool was used or not.

When the tool is used, there are four successful sales to every one failure. When the tool is not used, there are four successful sales to every one failure. When there is a successful sale, there are four uses of

the tool to every one use. When there is an unsuccessful sale, there are four uses of the tool to every one use.

Find examples of misuse of numbers in each group's discussion (MIS and Marketing & Sales). In addition to the misuse of numbers Almost everything else the two groups discussed beyond the data presented was pure speculation.

The distribution of 250 sales would have to look more like the following table if one were to have some confidence that using the SalesUp tool made a difference in sales success.

| Use of the SalesUp Tool |     |         |
|-------------------------|-----|---------|
|                         | Use | No-Used |
| Successful              | 160 | 10      |
| Failed                  | 10  | 40      |

Notice that in this table that the change in the No-Use column changes the interpretation that can be made. Now when the SalesUp tool is used there is a difference in the success of sales. There is some evidence that when the tool is not used sales fail and when it is used sales succeed, but even with these changes the data do not suggest that the SalesUp tool might cause an increase in sales.

Look again at the differences between the discussions of numerical data in the MIS and Marketing & Sales groups and the differences in the full discussions between MIS and Marketing & Sales.

What differences do you notice between the way the two group's discussed the numerical data? (Don't forget to come back by using the left arrow key or the back icon after you finish answering the question in POLIS).

#### Argument management

The way the data was discussed was due in part to the way the framing encouraged critical or uncritical use of the numerical data. The MIS framing helped that group attend to reasons why the new technology might work while the Marketing & Sales framing helped that group attend to rejecting a technology that would be unsuccessful. In addition, the facilitators added comments to help move the two discussions in those two different directions: MIS facilitator comments and Marketing & Sales facilitator comments

What differences do you notice about how the facilitators comments as attempt to influence the discussion? Think about the preceding discussions about framing and confirmatory biases. What are some options that group members have to encourage

effective uses of information in group discussion? That's it. See you in class!

#### Appendix three

##### Sexual harassment scenario

Laura is a woman in her mid-twenties who is professionally employed in a graphic design firm. Laura recently reported an episode of sexual harassment to the firms personnel director. When asked what happened, she explained that:

Recently, she received some design help from Ed, a male colleague in his late twenties employed by the same firm. She won an award for this design that she had worked on for 3 months. When she told Ed that she won the award for the project, he said, "Hey, you owe me a drink for that." Laura's reply to Ed was, "Oh, I owe you much more than that."

They arranged to meet for dinner to celebrate the award. During dinner, Ed began to repeatedly suggest that after dinner Laura accompany him back to his apartment. After she declined his suggestions, Ed requested further that she go to his place. At this point, Laura decided to take a cab home.

Upon returning to work, Laura sensed some tension between herself and Ed. She believed Ed was spreading rumors about her to male colleagues. Laura filed an official grievance with the personnel director against Ed. She asked the firm to take action to stop what she believed to be harassment.

#### Appendix four

##### Conflict management in group communication

Interspersed within the "task oriented" communication are a number of comments that appear irrelevant to the task of creating a joint policy statement between the groups. Examine these statements for their conflict management properties. The comments have been grouped together. Try to figure out the following about the groups of comments:

1. What grievance scheme(s) appear to be motivating the comment(s)? What evidence exists for your answer?
2. What form of grievance pursuit is being undertaken in the "doing" of the comment? Consider who or what the target is and the kind of social control being exercised. Again, what evidence exists for your answer?
3. How is the conflict socially escalating? Try to identify if there are different threads of grievance pursuit within this discussion.

Some questions you should be able to answer and discuss: Explain the difference between argument management and conflict management. Explain the difference between grievance frames and forms of

grievance pursuit in conflict management. What are some ways the design of a forum might influence

conflict management?