ORGANIZING FACE-TO-FACE TEAM TALK A HANDBOOK FOR TEAMS

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Abstract

of

ORGANIZING FACE-TO-FACE TEAM TALK A HANDBOOK FOR TEAMS

by

Deborah George

Small group discussion is the tool teams use to collaborate intellectually and to coordinate activities in the pursuit of a common goal. Discussion procedures alter natural discussion by providing rules or guidelines for conversation to allow a team to exploit collective abilities while minimizing unproductive communicative behavior. Some procedures are better than others for particular types of tasks and situations and the choice of a discussion procedure can make a difference in team effectiveness. The purpose of this project is to provide a concise reference to help team members select an appropriate procedure to accomplish a specific purpose. Using research findings from the communication discipline, the handbook provides insight on why some procedures are better than others for certain situations and tasks by pointing to the ways communicative behavior is shaped by the discussion procedure. It will then provide directions for using such procedures.

Committee Chair

Mark R. Stone, Ph. D.

Date

4/16/09

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DEDICATION

This is dedicated to my loving parents who told me girls did not need to go to college, and to my late husband, Lloyd, who always supported my educational pursuits during his life and continues to encourage me with his caring spirit.

A special thanks to my friend, Rick Grigsby, for his love, friendship, and well-intentioned support.
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Chapter 1

INTRODUCTION

Small group discussion is the tool teams use to collaborate intellectually and coordinate activities in the pursuit of a common goal. Teams attempt to direct their small group conversations by employing rules or guidelines that spell out what the team will talk about and how they will talk about it. Rules and guidelines that prescribe how small group discussion should proceed to accomplish a team’s task are known as discussion procedures. This project will explore the communication literature to determine the ways specific discussion procedures benefit teams, the ways communicative behaviors differ among discussion procedures and the implications of the communicative behaviors imposed by discussion procedures.

Team communication enacted in small group discussion is the focus of this project and I begin by highlighting the importance of this view with some statistics to show that business organizations in the United States get work done with teams. I will go on to explain how teams conduct small group discussions to coordinate their work efforts and some of the reported problems associated with small group discussion. After this introductory material, the literature review begins with the Functional Perspective as an explanation of how discussion procedures can impact the team’s process and the team’s products. The review of literature continues with relevant communication research on small groups, which includes two lines of
research that inform what is known about how procedures shape communicative behavior in small groups. These lines of research are pedagogy and small group discussion. Communication education scholars of the early twentieth century identified small group discussion as a tool of democracy and were among the first to advocate discussion procedures as a way to produce high-quality decisions. The literature review will show that the efforts to educate students how to decide public policy flowered into the idea of using small groups as a valuable teaching device and discussion procedures began to be used to promote learning. A body of research was initiated to test the assumptions and beliefs of educators and the literature review includes research investigation on how small group discussion actually happens. The literature review concludes with relevant research on specific discussion procedures.

Teams and Small Group Discussion

The greatest organizational change in the last 30 years has been the transition from hierarchical work structures to teams. Longitudinal organizational surveys show a steady rise in the use of problem solving and self-managed work teams throughout the 1990s (3M Research Group, 1999; Devine, et. al., 1999). The number of firms in the United States using a team work design has been calculated at between 30-55% (Osterman, 2000). The existence of multiple departments is the best predictor of the use of teams in an organization, and many teams are cross-functional in nature (Devine, et. al, 1999). In U.S. business organizations a typical team
performs multiple tasks, tends to make decisions by consensus, has a formal leader, operates as a peer group and is diverse in age and gender (Devine, et. al., 1999). Organizations see advantages of capitalizing on the interaction of small sets of people with diverse backgrounds, experience, beliefs and cultures. Pulling together unique talents to produce superior performance over individual efforts is known as the synergetic bonus (Allen & Hecht 2004). Put another way, putting small sets of people together to allow them to verbally interact freely with one another creates an environment for learning and finding solutions. Not only is the team work structure seen as a way to better harness intellectual abilities, but also a means to build support for ideas generated by the team as well as implementation of those ideas. Companies assume that if workers perceive themselves as actively participating in decision-making they will be more satisfied and motivated to do high-quality work (Marshall & Stohl, 1993).

The above description of teams in U.S. business organizations could be summarized as small sets of people who communicate freely in order to accomplish something. However, in everyday language, the term “team” is almost as common as the term ”communication”, and equally ambiguous. To help distinguish the meanings of team, small group and ways small group discussion is practiced by teams, the next section will provide definitions of teams, meetings, small group discussion and discussion procedures from a communication perspective.
Scholars tend to distinguish teams from other small groups by emphasizing the coordinated efforts of the team members toward a common goal (Beebe & Masterson, 2003; Gribas & Downs, 2002; Larson & LaFasto, 1989). Drawing on this definition, some companies have labeled their entire organization a team. For example, Xerox refers to its employees as Team Xerox (Gribas & Sims, 2006). On the other hand, a team can be as small as three members, such as an advisory group to determine the organization's recycling guidelines. Teams can be permanent, like Team Xerox, or temporary, like the recycling guidelines team. In organizations in the United States, the average team size is eleven people (Devine, et al., 1999).

Coordinated efforts are facilitated by the assignment of roles and responsibilities, shared behavioral norms, mutual understanding of success, and agreement on work methods (Hackman, 1990). In other words, a team is a social structure and as such can be defined by its communicative behaviors. Team members exchange a greater number of messages and more frequent messages among themselves, related to their common purpose, than they do with non-team members (Ellis & Fisher, 1994; Frey & Sunwolf, 2005; Poole & Hirokawa, 1996).

Active participation in team activities and coordination of efforts are facilitated by team members talking to each other in a setting that allows for face-to-face interaction. This face-to-face interaction of several people is referred to as small group discussion. Depending on the size of the team, small group discussions can
include all members or only a subset of members at one time. A definition of small group discussion is the exchange of verbal and nonverbal messages in a particular setting among a limited number of people for the purpose of achieving a common objective (Beebe & Masterson, 2003; Hoover, 2005). Typically, to engage in small group discussion, some or all team members will temporarily sequester themselves physically from the rest of the organization, such as in a conference room. The ideal configuration of the physical space allows everyone to have a clear view of all the others. Despite the average U.S. team size of eleven members, studies report that five to twelve members is most favorable to maintain active involvement in the small group discussion, with seven being the optimal number of participants (Bormann & Bormann, 1992; Frey & Barge, 1997; Wood, 1988). Normally a specific time period is set aside in advance and members are extended an invitation. This ritual surrounding the team discussion, commonly known as a meeting, is repeated in all organizations across all industries daily. The meeting ritual reinforces a sense of team identity, creates social bonds, and can help to reduce anxiety (Frey & Sunwolf, 2005). The ritualistic nature of the team meeting points to the importance placed on team discussion in organizations, and discussions within meetings somehow generate higher expectations than other types of communication in organizations.

3M Research, who has measured meeting times and effectiveness, finds that people report spending 20% or more of their working time each week in meetings
(1999). However, this same research points out that most people feel that a lot of time they spend in meetings is wasted. A similar survey done a year later by 3M (2000) showed that this perception of meetings as non-productive was formed by a lack of meeting purpose. Those surveyed reported that often there was no agenda or that an agenda was not followed and, therefore, no decision or conclusion was arrived at by the team. In other words, discussions seemed to have no point and offered no closure.

The 3M survey results and common experiences support Pavitt’s (1993) assertion that team discussions are most likely to be messy, redundant, and inefficient. Consider, however, that in a typical team meeting members must accurately remember information, analyze the relevance of the information, evaluate their judgments about the information and come to agreement on action to be taken. In addition to these cognitive burdens, team performance is constrained by affiliative and egocentric factors (Gouran & Hirokawa, 1996; Janis, 1989). During team interactions members work to maintain peaceful relationships with one another while attending to their own individual motivations (Gouran & Hirokawa, 1996). Considering all this, it is easy to see how discussions can get off track, run too long, and end without resolution.

The intent of a team meeting is to manage interaction to capitalize on resources of all the members (Pavitt & Curtis, 1990; Poole, 1991). To this end, a
number of discussion procedures have been developed. Discussion procedures are a set of rules or guidelines which specify how a group should organize its process to achieve a particular objective (Poole, 1991). Shield & Crowell (1979) identify different kinds of discussion procedures as: 1) ways to make lists; 2) methods to prune lists; 3) techniques to create new things; 4) ways to build involvement and understanding; and 5) methods to manage conflict. Sunwolf and Seibold (1999) organize procedures using four interrelated categories of communication functions: structuring, analyzing, creating and getting agreement. The quantity and variety of discussion procedures available to teams point not only to the need to organize small group discussion, but also to the many different purposes that team discussions serve. There is much evidence to support the notion that discussion procedures help teams perform better (Hall & Watson, 1970; Hirokawa, 1983a; Larson, 1969; Nemiroff & King, 1975; Pavitt, 1993; Van de Ven & Delbecq, 1974). Teams that use procedures tend to be more satisfied with their decisions (Nemiroff et al., 1976; Van de Ven & Delbecq, 1974) and as a result are more committed to their implementation (White et al., 1980).

Small group discussion as a focal point of team coordination assumes a relationship between communication in a team setting and the results from that experience. For teams, effective small group discussion needs to allow multiple interactants to have continuous, reciprocal exchange of messages in pursuit of joint
intellectual efforts to achieve a common goal. In other words, teams use 
communication to collaborate on issues and to promote cooperation on tasks. 
Judging from frustrations expressed regarding meetings, natural discussion, face-to-
face talk without agreed-upon rules or guidelines, does not automatically lead to 
productive team interaction. Therefore, it is important to understand how specific 
discussion procedures work to coordinate member thinking, balance participation, 
capitalize on strengths, and manage conflict.

The purpose of this project is to provide a concise reference, in the form of a 
handbook that not only details steps of useful discussion procedures, but also points 
out how each procedure may influence communicative behavior and the team’s 
performance. The handbook draws attention to how procedures attempt to counteract 
the deficiencies of natural discussion by organizing team talk. Understanding how 
procedures direct cooperative deliberation by having members think and converse 
together in face-to-face situations can put a team in a better position to use procedures 
to their advantage (Poole, 1991).

The literature review that follows begins with a general theory of group 
communication that seeks to explain how small group communication serves the 
accomplishment of team tasks.
Chapter 2
LITERATURE REVIEW

Functional Perspective

As the trend to use teams in organizations continues to grow, both practitioners in organizations and academic scholars maintain an interest in what behaviors and activities promote effective team performance and which detract from it. These questions drive theory and research from a Functional Perspective of small groups. Defined as a normative approach to describing and predicting group behavior and performance, Functional Perspective is most commonly used to explain small group performance effectiveness by focusing on inputs and processes (Hollingshead, et. al., 2005; Wittenbaum, et. al., 2004). The Functional Perspective is anchored by three core assumptions that align well with presumptions of teams in organizations (Gouran & Hirokawa, 1996, Hollingshead, et. al., 2005; Wittenbaum, et. al., 2004).

First, groups are goal oriented. The Functional Perspective assumes that groups are formed for some purpose. While these can include efforts to support members socially and emotionally, most research from the Functional Perspective centers on effective accomplishment of task-oriented goals which include reaching good decisions, generating creative ideas, solving problems and sharing information. The second assumption is that group performance varies and can be evaluated. A standard of effectiveness and efficiency is used to measure group performance. Team
performance is usually measured on organizational objectives and business parameters such as schedule, scope and budget. Regardless of the criteria or how they are established, when the standard is not met, intervention is seen as necessary to help the team reach its potential. The third assumption is that internal and external factors influence group performance through the interaction process. In other words, the Functional Perspective acknowledges that internal factors, like size or composition, and external factors such as time constraints or political pressures affect how the group performs. Although group performance in this view is seen as a causal outcome of internal and external inputs, these inputs are mediated by processes that occur during group interaction. It is possible to regulate and control these interaction processes and functionalists consider discussion procedures one type of intervention to improve team performance (Cummings & Ancona, 2005; Hollingshead, et. al., 2005; Waldeck, et. al., 2002).

Small group communication research from a Functional Perspective offers a large body of evidence that certain behaviors related to a team’s approach to making decisions can substantially improve the likelihood that the team will make good decisions (Hirokawa, 1985; Hirokawa & Pace, 1983; Poole, 1991; Waldeck, et. al., 2002; Wittenbaum, et. al., 2004). Behaviors that have been found to have an effect on high-quality group decision making include analyzing the task, identifying criteria to evaluate the solution, generating alternative solutions and evaluating positive and
negative consequences of each solution. Small group discussion serves to accomplish these functions. A meta-analysis of Functional Theory research by Orlitzky and Hirokawa. (2001) found that high-quality decision making was most strongly associated with the ability of teams to assess the negative consequences of alternative solutions to the task. Other research by Janis (1972) also points to the importance of teams having members perform the role of critical evaluator.

Team decisions are not always rational even if all critical functions of decision making have been talked about (Cummings & Ancona, 2005; Hirokawa, 1983b; Hirokawa & Pace, 1983). Functional Theory does not provide any explanation of why groups do not always fulfill task behaviors for successful decision making. In other words, the theory doesn’t address what factors negatively affect open, candid group communication; the lack of such communication can frustrate the critical assessment and evaluation of alternatives generated by the group.

Researchers using a case study approach have identified negative influences on group performance and have grouped them into three categories: cognitive constraints, affiliative constraints and egocentric constraints (Gouran & Hirokawa, 1996; Hirokawa, Gouran & Martz, 1988). Gouran and Hirokawa (1996) included these constraints as additional assumptions of Functional Theory. Cognitive constrains can include time pressure, lack of relevant information and having a task that is more complex than a team can handle. Affiliative constraints are manifested in
situations where group members do not want to disturb the perceived peace of the team or where they feel pressure to conform. Egocentric constraints occur under circumstance where specific group members dominate or have a need to control the discussion. Each of these constraints, alone or in combination, can detract the group from discussing critical functions associated with successful problem solving and decision making. Often discussion procedures are employed to deal with one or all of these constraints.

Although functional theory provides an explanation of how communication serves the team’s task by facilitating the functions necessary for a good team decision, solution or other outcomes; the theory does not address how effective communication emerges within small group discussions. The next section on small group communication research reveals some of the factors that positively or negatively influence small group communication.

Small Group Communication Research

The communication discipline has continued two distinct lines of research over several decades that inform the topic of organizing face-to-face team talk. One line of research is pedagogy, which looks at how people should talk in small groups. The second line of communication research is small group discussion, which looks at how people actually do interact in small groups. This part of the literature review begins with the oldest line of research, pedagogy.
Pedagogy. At the beginning of the 20th century, a camp of researchers was interested in useful, practical information about communicating in groups. Researchers’ interests lay in how to prepare people to perform in groups so that group outcomes--ideas, policies, decisions--were successful. Some of the most influential, systematic writing on the nature of groups came from practitioners and educators (Cartwright & Zander, 1968). Group discussion was seen as a tool of democracy, replacing demonstrative oratory and formal debate as the most effective means for determining collective action (Auer, 1939). Academic institutions felt citizens should be educated on this tool, and speech departments in the United States developed pedagogy for small group communication using public address as the foundation (Gouran, 1999). Dewey’s (1910) functionalist philosophy, which maintains human behavior is goal oriented, tied in well to a pedagogical approach to group discussion and early speech courses borrowed from Dewey’s reflective thinking techniques. Educators used their experience with classroom groups to refine their prescriptive advice. Alma Johnson (1943) developed a test to measure reflective thinking and related reflective thinking to problem discovery and informed judgments. Subsequent research used this test to focus on ways members influence others in a group, which created awareness that what group members say has functional significance (Gouran, Hirokawa, Julian & Leathan; 1993).
In 1939, based on their personal classroom experiences, educators McBurney and Hance published a guide to small group discussion as a means of exchanging ideas with others to form decisions. The advantages of small group discussion cited in their book, *The Principles and Methods of Discussion*, are still touted by contemporary authors: 1) groups provide a way to assemble facts and opinions; 2) they validate or reject facts and opinions; 3) members learn from each other and refine individual’s thinking processes. To their credit, McBurney and Hance also note the disadvantages of groups: 1) a group process is slower than individual decisions and actions; 2) to include all opinions is to include mediocre or uninformed opinions; 3) discussion can be messy, redundant, and inefficient; and 4) not all problems lend themselves to group discussion methods. Although these authors use many of the principles of debate, they differentiate discussion as cooperative and debate as competitive.

By using small group discussion to teach reflective thinking, researchers began to look at small groups as instructional design. The leap from problem-solving in small groups to learning in small groups seems a logical transition. In their 1949 review of studies done on learning in small groups, Dickens and Hefferenan concluded that small group discussion can be a valuable teaching device. Additional investigations on how best to utilize small groups for learning continued in the 1950s and 1960s (Keltner, 1960, 1961; Larson, 1971). By the 1990s participation in small
groups was a common educational experience in the United States, but a review of literature on the subject found only a small number of articles on the topic (Allen & Plax, 1999). However, a half century after small group discussion was declared a valuable teaching device, communication scholars continue to investigate and to inform the use of small groups in educational contexts. For example, Dobos (1996) looked at communication predispositions and small group discussion, Darling and Dannels (2003) observed practicing engineers to determine types of small group communication skills needed in the modern workplace and called for communication scholars to develop "sound instruction, scholarship and curricula" (p.15). More studies like Vess' (2005) investigation of asynchronous computer mediated discussions will be needed to update this valuable teaching device to online group discussions.

The pedagogical experience and associated advice that began at the beginning of the twentieth century initiated an agenda for research on discussion in small groups (Cragan & Wright, 1980). Scholars began to examine the assumptions and beliefs of practitioners that cooperative interaction is valuable and desirable, that reflective thinking is the ideal model of problem solving and that decision-making is facilitated by formal discussion and problem solving procedures. I will now turn to the research that looks at small group discussion, not from the perspective of how groups should communicate, but rather how small groups actually do communicate.
Small Group Discussion. A body of research on group effectiveness, group process and group inputs began to emerge in the 1950s (Frey, 1996; Gouran, 1999). Separate studies in 1958 by Bane and by Crowell provided support for the advantages of cooperative thinking. A case study by Brilhart in 1960 demonstrated that interdependent thinking in a group setting was better than individuals contributing separately. In a 1957 article by titled, Groupthink and Individual Thinking, Keltner introduced the idea of group thinking as cooperative deliberation, which he saw as a positive approach to problem solving. Contemporary literature reviews (Frey & Sunwolf, 2005; Gouran, 1999) document a number of studies in late 1950s and early 1960s that associated reflective thinking with higher quality group decisions and also differentiated effective members from ineffective group members.

Research began to shift from a focus on what groups should do to looking at what groups actually do. In 1964 Scheidel and Crowell challenged the traditionally prescribed linear communication patterns for problem solving discussions in the first systematic investigation of group process published in a communication journal (Gouran, 1999; Pavitt & Johnson, 2002). Using content analysis of small group discussions, the study showed discussion in problem-solving groups was not linear, but revealed what the researchers labeled as a spiraling model. Berg (1967) also used content analysis of small group discussion to identify common, reoccurring communication themes in task-oriented groups. Unlike Scheidel and Crowell’s study
which used student groups, Berg observed natural task groups in religious, political, professional and education contexts.

Another investigation of group process was done by Leathers (1969) who determined that different types of statements used in the course of a group discussion have an impact on the direction of the discussion. For example, a facetious comment may provoke a personal response. The type of personal response will depend on how the receiver interpreted the comment. It could be interpreted literally or it could be interpreted as a joke. According to this study, the feedback response will take the team off its task because in either case the feedback comment will be personal. In some cases this may be of value to the group. If the discussion had been tense, this comment can give members of mental vacation from the task at hand and allow them to begin fresh after off-track comments are completed. The task at hand can be picked up again with an orientation statement.

The evolving view of communication as not only a means to achieve the outcome of a good decision, but also a process by which decisions, good and bad, are achieved advanced theories in the field of communication (Cragan & Wright, 1980, 1990). For example, the most enduring research to come out of the 1970s was development of phase models of group communication. Using a set of variables and student decision-making groups Fisher identified a four-phase model (1970). Cragan and Wright (1980) noted other researchers who also identified sequential phases of
small group communication using groups that were not task groups. Their review of a decade of research in the 1970s included phase identification by Maybry from observation of encounter groups and by Chesebro, Cragan and McCullough's in studies of conscious-raising groups. There were, however, studies of task groups that failed to find qualitative distinct phases (Gouran, 1999; Hirokawa, 1983a). Attempts have been made to reconcile differences among studies as to the number of phases (Tuckman & Jensen, 1977; Wheelan, 2005). The only consistent conclusion is that small group communication behaviors change over time, which is the basis of the developmental perspective.

The developmental perspective gives some insight into small group communication behavior on the macro level, but lacks explanatory power at the detail level (Hirokawa, 1983b). Small group phases, as defined by communication patterns, seem to vary depending on factors such as the nature and/or difficulty of the task, the clarity of the goal, time allocated, and degree of consensus on values (Poole, 1983b). Hirokawa (1983a) found no relationship between group development patterns over time and the quality of the group's solution. More research from this perspective is needed to build a theory of how group interaction unfolds (Wheelan, 2005).

Examination of communicative behaviors in small group discussion also exposed a relational component indicating that small group interaction necessarily contains both communicative acts to maintain relationships among group
members and communicative acts that promote the group's task accomplishment. To capture this phenomenon, Bales (1950) developed an observational coding scheme to account for both relational and task content in messages. Although the method is a type of content analysis, Interaction Process Analysis (IPA) classifies communicative acts according to factors that influence the group's process. Interaction process analysis helped researchers distinguish between relational messages and task messages, which originally Bales saw as mutually exclusive. More contemporary scholars acknowledge that messages can contain both task and relational dimensions (Keyton, 1999; Poole, 1983a). Relational messages are for the most part looked at in terms of their impact on task messages or group outcomes. Although they can be both supportive or negative, according to Keyton (1999) relational messages are often perceived as having an inhibiting effect on group performance.

Perhaps influenced by the number of organizations implementing a team work structure, interpersonal communication came to replace speech education as communication departments instructed people on how to talk with people face-to-face in small groups (Bormann & Bormann, 1992). Prescriptive advice for small group communication was as much focused on dealing one-on-one with people as it was about discussion procedures (Bormann & Bormann, 1992; Frey & Barge, 1997). Keyton, however, makes clear the difference between interpersonal communication and relational communication that takes place in small groups. Relational
communication is the verbal and nonverbal messages that create the social fabric of a group by promoting relationships among members in small groups (1999, p.192). Although interpersonal communication may inform the study of relational message exchange, it does not satisfactorily address how multiple relationships are simultaneously developed and managed.

Little research has been conducted on relational communication in groups (Keyton, 1999; Sunwolf & Frey, 2005), and the discipline’s conceptual models of communication may be a factor for limited investigation. Poole (1998) illustrates this by calling attention to the discipline’s single source/single receiver models of communication. Shannon’s model of mediated communication excludes the social situation and, as Poole points out, in a group situation other members in this model are defined as “noise” (1998, p.95). Berlo’s SMCR (sender, message, channel, receiver) model and its variations still emphasize the dyad as a basic unit of communication. Small group communication research for the most part treats small groups as collections of individuals. However, there are certain properties of groups that are created and maintained by the interaction of the group itself and are not analogous to the individual (Frey, Botan, & Kreps, 2000; Frey, L. & Sunwolf, 2005; Warriner, 1956).

These two lines of small group communication research, pedagogy and small group discussion, inform the topic of organizing team talk, since discussion
procedures contain elements of both themes. First, from pedagogical research we know that discussion procedures structure discussions in a way that allows individuals to reason together, and these collective reasoning processes promote learning in teams. Reflective thinking has been the dominant procedure in communication education and stresses structured thinking. Many studies have reported that groups using discussion procedures like reflective thinking produce higher-quality decisions than groups using natural discussion (Hall & Watson, 1970; Hirokawa, 1983a; Larson, 1969; Nemiroff & King, 1975; Pavitt, 1993; Van de Ven & Delbecq, 1974). In his review of research on discussion procedures, Pavitt (1993) reported that this was especially evident where there was an objectively correct answer; the advantages of using discussion procedures when there was no objectively correct answer were not so clear. It appears most studies use an input-output model where groups are instructed on specific procedures and their decisions measured against predetermined criteria. This input-output method, which effectively ignores the group process, may reveal more about the impact of procedures on individual thinking, as member thinking skills have been found to impact group decisions. For example, Sharp & Milliken (1964) formed groups of students according to scores on Johnson’s reflective skills measurement instrument and found there was a relationship between thinking ability of members of a group and the group solution quality.
Additionally, studies of small group discussion tell us about the nature of natural discussion. Natural discussion appears to be characterized by short, proposal-centered sequences (Pavitt, 1992). The group will bring up a proposal, discuss it, and then go on to another. If the proposal has merit, it will resurface later in the discussion for additional evaluation; otherwise it is dropped without further comment. In other words, small groups propose, evaluate, choose and justify simultaneously (Pavitt & Johnson, 2002). However, teams can take a number of alternate paths in decision development based on task complexity and relational contingencies. Members want to make good decisions and at the same time want to maintain good relationships. There are individual motivations at play that may introduce conflict. Members may often attempt to avoid conflict and therefore seek fast convergence on a decision in order to avoid escalation of differences (Poole & Roth, 1989b). The approach to decision-making varies among groups and they tend to tailor their shared concept of an 'ideal procedural model' to fit the immediate situation (Pavitt, 1992; Poole & Roth, 1989a, 1989b).

This review of literature on small group communication research provides support for two purposes for teams to use discussion procedures. One purpose is to structure group member thinking and associated discussion. The other is to save the team from its own bad habits, such as conflict avoidance and premature convergence, which tend to arise in free discussion. Both purposes share the intent of making a
team more efficient and effective. Gouran’s description seems appropriate when he refers to discussion procedures as a family of tactics, strategies and methods for converting group members’ potential into maximum constructive action by organizing messages and managing meanings (1995, p. ix). Poole offers a more precise definition of discussion procedures as “sets of rules or guidelines which specify how a group should organize its process to achieve a particular goal (1991, p.55).” Recognizing that the general intent of discussion procedures is to structure thinking and to direct communicative behavior, the next section summarizes what the communication literature reveals about how specific discussion procedures attempt to accomplish these purposes.

Discussion Procedures Research

Sunwolf & Seibold (1999) argue that small-group discussion procedures can be categorized by the functions they serve in collective goal-oriented contexts. The conceptual framework they developed, the Functional Impact Model, organizes discussion procedures by four separate but interrelated functions performed by teams. The four interrelated functions that discussion procedures serve are 1) providing structure; 2) facilitating analysis; 3) encouraging creativity; and 4) getting agreement. In the next section, the review of relevant research on specific procedures used to guide small group discussion is organized by these four categories of interrelated functions.
Procedures to provide structure. A team charged with solving a problem needs a game plan to manage the problem and to achieve its common goal. Within this overarching plan, sub-problems are tackled and decisions made about them. Teams may use a problem-solving approach like a system development lifecycle, product development cycle, or strategic planning cycle to explicitly arrange topics addressed in discussions over a long time period, such as the duration of a project or a business cycle. These rational models use a diffusion approach taught in engineering disciplines and frequently used in business organizations (Nutt, 1984). This approach moves the team through an orderly sequence beginning with problem identification and moving to solution development and finally to implementation and adoption by the organization.

Some authors distinguish creative models from rational models even though creative models contain the same components of gathering data, defining the problem, generating solutions and evaluating alternatives (Jarboe, 1996; Sunwolf & Frey, 2005). Both rational and creative problem solving models sequence topics according to some logical flow. Sometimes referred to as macro procedures (Jarboe, 1996), these problem-solving models do not necessarily prescribe communication behavior. Macro procedures help organize team talk by providing a structure for what members talk about and in what order.
Another type of macro procedure is an agenda. An agenda identifies the issues that are going to be considered within a specific time frame. The two types of agendas most commonly used by teams are problem-solving agendas and issues agendas. A problem-solving agenda is a plan or strategy to move the team through steps of a decision-making model on a time-compressed scale, focusing on a specific issue or sub problem (Sheidel & Crowell, 1979). A problem-solving agenda provides a kind of check list to ensure requirements of problem solving are covered. A commonly used model of problem solving is Dewey’s reflective thinking model. Dewey’s model has five steps: 1) become aware of a problem; 2) assess the problem; 3) generate possible solutions; 4) evaluate possible solutions; 5) select a solution. Three variations of Dewey’s model, are criteria-ideation, ideation-criteria, and problem-solution. Criteria ideation has the group discuss the nature of the problem and the criteria for a good solution before generating solutions. Ideation-criteria format also first has the group discuss the nature of the problem, but then considers possible alternatives before talking about criteria for a good solution. Problem-solution is a format to talk about the nature of the problem and generate solutions without setting any criteria for a good solution. Researchers found no significant differences in solution quality among the three discussion formats, but there is evidence that teams that use some type of discussion organizing scheme perform
better than those using natural discussion (Gouran, 1985; Hirokawa, 1985; Pavitt, 1993; Poole, 1991).

A second type of agenda is the issues agenda which lists discrete items to be discussed individually. Issues agendas follow a linear strategy in that once an item is completed, either by closure or time allocation, the item is not expected to be revisited in the same meeting (Thompson, Mannix & Bazerman, 1988). Tropman (1996) prescribes structuring team talk using a functional agenda. In what Tropman refers to as the “rule of thirds,” the team’s most important business is handled in the middle third of a meeting when participants have the most energy and greatest mental attention. Noncritical or informational items are presented the first third of the scheduled time, and the team’s least difficult issues are discussed in the last third of the meeting. Because discussion topics may be disconnected, issues agendas are a tool to measure progress of small group discussion, even more than problem-solving agendas where there is a logical progression of discussion topics. The agenda creates a standard against which to judge orderly performance (Bormann & Bormann, 1992). Since agendas only direct the team on what to talk about, not how to talk about it, natural discussion that ensues may lead team members off topic and the agenda can be used to reorient the discussion. According to the Zeigarnik effect, team members can become frustrated when they are kept from finishing a task or do not see the end of a distinct piece of work (McGraw & Fiala, 1982; Poole, 1991). The use of
structuring procedures may promote member satisfaction by delineating the start and end of distinct tasks.

Another organizing structure worthy of mention because it so strictly controls communication is Robert’s Rules of Order (1915). Also known as parliamentary procedure, these rules delineate the order and ways proposals are considered and the enforcement of the rules themselves. These structuring discussion procedures prescribe communicative behavior by explicitly dictating speaking order and how proposals are phrased. Originally intended to promote democracy in groups, this structure is considered too complex for routine team discussion (Poole, 1991). However, teams sometimes adopt Roberts’ Rules for Committees (Robert, 1915), which are less complex than procedures used by larger groups. This subset of Robert’s Rules of Order is used by smaller, more informal group discussions. There is no need to make points of order, table motions, or request personal privilege. Virtually anything can be discussed informally under these guidelines.

Procedures that help groups structure the order of topics have been given little attention (Sunwolf & Seibold, 1999). Some research suggests that teams function better by avoiding conflict and maintaining order when they use organizing structures that set boundaries, timing, and order of discussion (Thompson, Mannix & Bazerman, 1988). Other research, such as has been done in the area of negotiation, indicates that simultaneous discussion of issues facilitates discovery of integrative solutions.
These findings can be partially reconciled with Bormann’s 1961 qualitative research of small group process that found some members needed defined structure where others were satisfied with less structure or had a preference for no structure (Putnam, 1979).

Expanding on Bormann’s concept of procedural order, Putnam’s 1979 research with student groups revealed that preference for procedural order is a complex behavioral experience which integrates task complexity, work climate and member expectations about group process. Putnam’s (1979) study also recognized that high-procedural order, characterized by explicit instructions, time frames and role assignments, and low procedural order, characterized by non-linear discussion and flexible time use, were not mutually exclusive. A team may incorporate both aspects and both can be considered a structure for team talk in the sense that work patterns vary over time.

Related to preference for procedural order are studies of leadership style that imposes high amounts versus lower amounts of structure on small group discussion. In a review of speech communication research studies, Gouran (1985) reported evidence that both decision quality and member satisfaction were improved, especially in highly cohesive groups, with a structuring style of leadership.

Procedures to aid analysis. Achievement of a collective goal is the purpose of a team. Analysis, therefore, becomes an important function to come to mutual
understanding of the nature of the goal, definition of essential tasks related to the
team's common goal, and relationships among the tasks. Studies examining
communication in decision-making groups have found a positive relationship
between decision effectiveness and attempts to analyze a shared problem (Gouran,
Problem analysis involves taking a realistic look at the nature, extent and likely cause
of the problem. The analysis process is influenced by many interacting factors such
as type of problem, degree of expertise available to the team, amount and type of
specialized knowledge, heuristics the team brings to bear on the issue at hand, time
constraints, organizational and team goals, and preferences to approaching a problem,
to name a few. Beneficial communicative behaviors include statements or questions
which help the team 1) identify the nature of the problem; 2) identify symptoms or
signs of the problem; 3) determine the extent or seriousness of the problem; 4) identify possible causes of the problem (Hirokawa, 1983a).

An advantage of small group discussion is that a team is better able to detect
errors of omission through information sharing and to eliminate errors of commission
by evaluation of contributions of fact and opinion (Ellis & Fisher, 1994; Frey, 2006;
Hirokawa & Scheerhorn, 1986; McBurney & Hance, 1939; Pavitt, 2003). Although
research on contributions of information in small group discussion is limited, one
study concerned with content of information found that assertions based on factual
knowledge were more likely to lead to consensus than verbal contributions based on opinion (Gouran, 1985).

One method used to share and evaluate information is by group argument, manifested by disagreement, reason giving, reason defending and resolution seeking. Seibold & Meyers (2007) see group argument as convergence-seeking discourse in which proposals are tested and refined and alternative realities compared and evaluated. The degree of attraction to or rejection of a proposal can be predicted by the frequency of favorable and unfavorable comments (Hoffman, 1978). Members' prior valence, or preference, for solutions may facilitate the group reaching agreement, or may delay agreement when members have strong valence for opposing solutions. Studies indicate total amounts of discussion and valence are separate elements (Seibold & Meyers 2007). The dominant participator may regulate the pace and length of the discussion, but only influences the decision when s/he suggests solutions or evaluates them in ways acceptable to the other group members (Gouran, 1985). To be influential, a person must be effective in articulating the beliefs of the other members or demonstrating her/his own expertise. Leaders may unintentionally influence decisions when encouraging participation because members may respond in a way that is acceptable to the leader, thereby increasing the number of favorable comments for a specific proposal.
Seibold and Meyers’ (2007) review of studies on group dynamics found repetitive agreement among members helps strengthen interpersonal connections and helps commit members to the final outcome. Tag-team arguing, one member offering evidence followed by another member providing more evidence, creates a perception of unity and support for the proposal. Building agreement in this manner can benefit the team by directing collective actions.

However, repetitive supportive communicative acts can also result in groupthink, when desire for high cohesiveness and the accompanying concurrence-seeking tendency interfere with critical thinking (Janis, 1972). Although groupthink does not always result in poor decisions, it has the potential to lead the team to poor decisions. To avoid bad habits of conflict avoidance and premature convergence, teams may adopt procedures that intentionally introduce conflict into small group discussion (Nemeth, Brown & Rogers, 2001; Schwenk & Thomas, 1983). Two such techniques are dialectical inquiry and devil’s advocacy, which focus talk around problem assumptions and crucial issues (Nemeth, Brown & Rogers, 2001; Schwenk & Thomas, 1983). The dialectical inquiry approach begins by identifying assumptions underlying the proposal under consideration. A counterproposal is created, which is still feasible, politically viable and credible, but based on different assumptions from the original proposal. The mode of talk is debate where both proposals are presented to other team members. The team may choose one of these
proposals or formulate a new one based on a different look at the same issue. Devil’s advocacy involves one or more individuals presenting criticism of the team’s selected proposal without proposing an alternative. The role of devil’s advocate may be assigned and views of the dissenter may or may not be consistent with her/his own. The devil’s advocate can also be an authentic dissenter.

The idea of both dialectical inquiry and devil’s advocacy is that continued discussion critiquing a proposal will delay closure and allow for further consideration of alternatives. When the two techniques were compared, dialectical inquiry was associated with higher-quality decisions than devil’s advocacy (Pavitt, 1993; Sunwolf & Seibold, 1999). Another study found that conflict-inducing methods may stimulate more discussion in support of the original proposal instead of generating discussion on other possible positions (Nemeth, Brown & Rogers, 2001). If criticism does not provide alternative assumptions or plans, it can be destructive (Janis, 1972; Jarboe, 1996). More research is needed on techniques designed to simulate conflict within decision-making groups to determine the impact on small-group discussion in relation to deeper analysis and synthesis of information (Devine, et. al., 1999; Meyer, 2000; Sunwolf & Seibold, 1999).

Argument is only one way to view communication that facilitates team problem analysis. Collaborative learning was recognized by early communication educators as a natural result of small group decision making (Dickens & Hefferenan,
Collaborative learning contends that high-quality decisions result from mutual, shared learning rather than from consensus (Walker, Daniels & Chen, 2006). Maybry and Sudweek (2006) describe attributes that contribute to collaborative learning in teams as task competence, flexibility, trustworthiness and capability to initiate and accept influence in support of cooperative goals (p.281).

Business problems usually have social and political components where the logical solution may not be the best solution. Often there are many people who have something at stake in how the problem is resolved so the best solution becomes the one that is accepted by all stakeholders. Collaborative learning allows the team to shift from a problem-solving mindset to a focus on designing a desirable and feasible change or finding ways to improve the situation. Collaborative learning discussion techniques include active learning exercises that can be facilitated with decision aids.

Decision aids organize team talk by focusing in on particular aspects of a complex issue to facilitate analysis. For example, Multiattribute Decision Analysis used in an interactive team setting dynamically lists alternatives and their associated outcomes on a diagram that resembles a tree (Poole, 1991). Each “branch” can be considered separately and the “tree” can be considered as a whole. This allows the team to break down a complex issue into manageable parts and still maintain a holistic visual perspective. A decision aid generally has at least two components, a visual representation and explicit discussion of the aspect under consideration. Visual
representations or diagrams created dynamically throughout the discussion process provide a memory prompt that summarizes accumulated relevant information.

Visual aids help reduce cognitive load and help members to focus on total group-generated information rather than just individual memories (Wittenbaum, 2004). Building the visual together as a team also helps cement a common mental model of the problem or issue being discussed as words get translated into visual symbols to which common terms are applied. A simple T-Chart can illustrate this point. A giant letter “T” is drawn on chart paper or a whiteboard. The topic, issue or problem is written above the “T” crossbar. The stimulus to start discussion is an open-ended question such as, “what are pro’s and con’s of X?” The positives/advantages are listed on the left side; negatives/disadvantages are listed on the right side of the center line. Team members verbally contribute items to be listed on one side or the other. Another widely used analytical tool, force field analysis (Lewin, 1982), combines discussion and visual representations by using a chart very similar to the T-chart. Forces that act to bring about a desired condition are listed on the left and forces that act to prevent the desired condition are listed on the right. Research shows that this type of discussion, when it includes elaboration, clarifying statements, questions, and challenging of assumptions, promotes critical thinking of all team members (Hirokawa & Pace, 1983). As items are written on chart paper or a
A whiteboard group memory is created by placing items into categories (good/bad) and creating a visual of the balance of good versus bad.

Communication scholars have for the most part neglected the study of group memory (Pavitt, 2003; Wittenbaum, 2004). Although studies find that groups do outperform individuals in recognition and recall of information, research of this subject has not examined discussion procedures (Pavitt, 2003; Propp, 1999; Whittenbaum, 2004). In addition to creating a group memory, visuals generated through team discussion serve to help the team avoid ambiguous and vague language. Clear shared meaning is important as equivocal language has been shown to increase selective perception and interpretation on the part of team members, which increases the likelihood that faulty thinking will actually be reinforced by the discussion process (Hirokawa, Gouran, & Martz, 1988).

Procedures to encourage creativity. Teams are often expected to use creativity and innovation to achieve their goals. A definition of creativity applicable to teams is, “unexpectedly appropriate combinations or associations of ideas.” Complementary to creativity is innovation, seen as incorporation of creative ideas into a finished article (Whitfield, 1975). From a communication perspective, creativity can emerge from small group communication (Salazar, 2002). Just as analytical discussion procedures help teams to think critically, discussion techniques have been developed to help teams engage in creative thinking. Synectics (Gordon,
and Group Mind Mapping (Buzan & Buzan, 1996) are two examples where communication techniques, such as the use of metaphor, analogy, images and/or scenarios, urge team members outside of routine thinking and discussion patterns.

Although communicative behaviors associated with group problem analysis have been operationally defined by researchers, communicative manifestations of purposefully creative interaction in groups have not been studied in the communication discipline (Jarboe, 1999). Jarboe speculates this may be because of the communication discipline's strong roots in rhetoric and debate which emphasize evidence, logical reasoning and linear argument. Creativity, on the other hand, involves fun, enjoyment, merrymaking, which may be a difficult subject for scientific inquiry. Even though creative communication has not been defined, a variety of discussion strategies and techniques have been developed to help teams overcome constraints on creative thinking. Studies of creativity in all disciplines have privileged ideation, the generation of ideas without evaluation, over association, the use of metaphor, images and scenarios, as creative techniques (Jarboe, 1999). Of all the techniques described in books and industry journals, only brainstorming and nominal group technique (NGT) have received significant scholarly attention.

Brainstorming is a technique to promote generation of ideas (Osborn, 1963). Two key principles guide the discussion procedure: 1) deferment of judgment and 2) quantity of ideas breeds quality. Deferring judgment requires participants to refrain
from criticizing ideas before the idea has had full development and a fair hearing. It is intended to reduce fear of criticism and rejection by participants in the brainstorming activity. The idea that quantity breeds quality is founded on the notion that the first ideas are usually the most obvious, and creative ideas come after the obvious ones have been stated. Studies of brainstorming suggest that the idea-generating technique produces a wide range of ideas and heightens group enthusiasm (Jablin, Seibold & Sorenson, 1977). However substantial research shows that interacting members of brainstorming groups generate fewer ideas, as well as lower quality ideas compared with noninteracting groups (Davis, Hulbert & Au, 1996; Hollingshead, et. al., 2005; Sunwolf & Seibold, 1999). The poorer performance of brainstorming groups, in terms of quality and quantity of ideas, has been attributed to communication apprehension, premature idea evaluation, social loafing and free riding (Sunwolf & Frey, 2005).

Another procedure investigated in decision-making research related to ideation is nominal group technique (NGT). This technique combines ideation and evaluation in a two-step process (Van de Ven & Delbeq, 1974). Communicative behavior is very structured in that periods of silence are imposed and verbal contributions are restricted by participation rules. First, individual members silently and independently generate their ideas related to the issue at hand in writing. Next, each member, one at a time, in turn, around the table, presents one of her/his ideas to
the group without discussion. Members' ideas are publicly recorded on chart paper or whiteboard. After everyone has presented all their ideas, there is a limited discussion of the recorded ideas solely for the purposes of clarification. The discussion procedure ends with silent independent voting or ranking of priorities by individuals using a decision rule previously determined by the team. The group decision is the pooled outcome of individual votes. The rules of NGT that restrict team interaction can impede creative idea generation (Doerfel & Toshach, 2006). However, NGT promotes more equal participation than might occur in natural discussion, which can result in improved group outcomes such as higher-quality ideas and more considered evaluation (Bonito & Hollingshead, 1997; Jarboe, 1999). The goal of the team should drive what discussion procedures it uses. For example, if proposal generation is the goal, then there is evidence that NGT outperforms other methods. However, if group cohesiveness and group satisfaction is a goal, then other more interactive methods may be advantageous (Pavitt, 1993).

**Procedures to gain agreement.** Ultimately a team needs to transform conversation into action toward common goal achievement. Collaborative efforts, such as information sharing, opinion offering, idea generating, and error checking, must eventually merge into channeled cooperative behaviors that move the team closer to its shared purpose. In other words, the team needs to agree on an action or a course of actions to move toward its goal. If, for example, a software system
implementation project team decides that functional area heads need to be contacted before the implementation schedule is initiated, then members must agree to suspend their individual implementation acts until they receive confirmation that functional heads have been contacted. To reach agreement the team could decide by consensus, negotiate an agreement, or simply take a vote. Davis (1969) identified seven types of decision rules. Agreement can be imposed on a team by authority, such as the team leader, or by external authority or criterion. Decisions can be made for the team by a select few, also known as oligarchy; by quorum, where a minimum number of members must agree; or by unanimity, a decision rule where all must agree. Each of these procedures has implications for team discussion norms, the team decision or solution, and team members’ satisfaction.

Many sources offering advice to teams suggest that consensus is the only legitimate means to solidify agreement (Gouran, 1969; Knutson, 1972). Indeed, a survey of teams in U.S. organizations found that almost three quarters said that consensus was their primary decision-making technique (Devine, et. al., 1999). A good definition of consensus is a decision that reflects the views of all members and has the acceptance and the support of all members (Gouran, 1985; Sunwolf & Seibold, 1999; Wood, 1988). Consensus, therefore, certainly connotes a team approach. It appears to be the”team way” because consensus contains assumptions that are often implicitly applied to teams. These include: 1) reasonable, open-minded
people can agree; 2) each individual's contributions are worthy of expression and consideration, and 3) team goals are members' goals. In other words, team members are committed to collective goals through collective means. Consensus gaining takes a lot of time and effort. Also, the larger the group, the less likely it is to achieve consensus because as the size of the group increases, the amount and overall distribution of participation in the discussion decreases (Frey & Barge, 1997). To increase the probability of consensus, five to seven members is optimal to maintain active involvement in the small group discussion (Bormann & Bormann, 1992; Frey & Barge, 1997; Wood, 1988).

Norms for team discussion when using consensus have been found to include supportive statements, requests for clarification, questioning for understandings, summarizing members' input and orienting talk that keeps the team on track and moving toward their objective (Gouran & Fisher, 1984; Knutson, 1972; Sunwolf & Seibold, 1999; Wood, 1988). One study identified communication behaviors that were unacceptable in consensus-seeking groups as negative comments toward other members' ideas, divisive arguments, and grandstanding (Wood, 1988). Other studies that examined communicative behavior in groups achieving and failing to achieve consensus found it was not the kind of verbal comments that was important, but the pattern of communicative behavior that contributed to consensus (Gouran, 1969; Gouran, 1985; Gouran & Fisher, 1984; Poole, 1983a). Groups that failed to reach
consensus reflected more random patterns of interaction. Groups that achieved consensus exhibited predictability among categories of interactions that included statements that amplified themes and comments that provided information.

The relationship between consensus and team outputs like decision quality and member satisfaction is not certain. In their review of research, Sunwolf and Seibold (1999) report a variety of studies that found some benefits of agreement by consensus. These benefits include greater member satisfaction, increased desire to continue working as a team, and more acceptance of and commitment to the group decision. In some situations consensus groups produced higher-quality decisions (Schwenk & Cosier, 1993). However, since mutual agreement is pursued, extreme views are tempered as moderate approaches are more easily accepted. This can be a weakness because decisions and solutions may be so diluted that they are far from optimal (Wood, 1988). Also, the relationship between participation and member acceptance of the group's decision is not clear. A study comparing groups trained in consensus with untrained groups found that consensus techniques increased member involvement, but did not lead to increased satisfaction with the group’s decision (Nemiroff & King, 1975). Even so, if the decision or solution is less than ideal, by having been a part of its development, people may feel a sense of togetherness and goodwill that can continue into future tasks (Schweiger, Sandberg & Ragan, 1986). This may be an important factor for continuing teams and long-term project teams.
When the team is ad hoc and teambuilding is not an important factor for success, negotiation may be a better way to reach agreement (Wood, 1988). An example might be a cross-functional team deciding on a software upgrade where each area comes in with an unwavering commitment to a position. Team members from the Finance area have a goal to stay within the yearly budget, Information Technology (IT) team members have a goal to stay current with technology, and members from the Sales area want to maintain customers who do not wish to change the current system. Nevertheless, each area acknowledges interdependence. Sales cannot increase its customer base without a new software system, IT cannot acquire new technology without Finance allocating the funds, and Finance cannot meet its revenue goals without increased sales. Conflicting values (stewardship of monetary resources, innovation, customer service) and competing goals make consensus an unlikely agreement vehicle. Negotiated decisions, like consensus, incorporate the views of all members, but unlike consensus are not necessarily built upon shared goals. Also, full endorsement by all members is not necessary, only that each member find enough value in the decision to support it (Franco, 2006). Negotiated agreements, therefore, are made through a series of complex, sometimes vague, trade-offs among the team members. While no member will be completely satisfied, no one is entirely dissatisfied.
Trade-offs are made through discussion that assumes no balance of participation or equity in power or status (Ellis & Fisher, 1994). Because strategic bargaining and careful trade-offs are achieved through competitive interaction, this method of reaching agreement does not promote teambuilding or help to establish collective goals as a priority. The team will implement the common decision or solution because it is pragmatic to do so. Future interaction will rely not on team relationships as much as the perceived equity of the decision and continued conditions of interdependence (Wood, 1988). Team members advocate their position to a greater extent than in consensus, but there is still an expectation that positions are flexible rather than entrenched (Tindale, Dykema-Engblade & Wittkowski, 2005).

Fisher, Ury and Patton (1991) offer an approach called Principled Negotiation. Four points of principled negotiation are 1) separate people from the problem; 2) focus on interest not positions; 3) find options that promote mutual gains; 4) use objective criteria for agreement. There is little research that investigates negotiation as an interactive decision-making process (Thompson, Mannix, & Bazerman, 1988).

Regardless of the degree of cohesion or need for unity, all teams experience times when a decision needs to be made quickly, such as when they face a deadline. In cases like this where the primary objective is resolution, voting is a quick, expedient way to reach agreement (Hall & Watson, 1970). Often categorized as a conflict-avoidance procedure, voting is a method that achieves decisions through
some predetermined criterion of support, such as simple majority or two-thirds majority. Neither unanimous agreement nor unanimous acceptance is required. Team discussion is directed toward definite disposition of the issue at hand (Van De Ven & Delbecq, 1974). This method has no explicit rule for equity of participation or limiting individual power (Sunwolf & Seibold, 1999). It is assumed that individual team members will have preconceived commitment that may or may not alter as a result of discussion. Team talk is competitive, goal seeking and perhaps even dogmatic. To manage the surge of comments, information, opinion, emotional and logical appeals, there is an expectation that a formal facilitator role may emerge or be assigned (Wood, 1988). Actions the facilitator takes may include determination of speaking turns, the maximum time for discussion prior to taking a vote and announcement of the method of expressing preference. Some methods of registering agreement include simultaneous voice vote, roll call voice vote, simultaneous hand raising, or secret ballot. Research with juries finds group decisions can be affected by timing of a vote, early or late in the discussions; as well as the method used to express preference, either sequentially or simultaneously (Davis, 1969; Davis, Hulbert & Au, 1996; Sunwolf & Seibold, 1999).

More than with other methods of reaching agreement, voting allows for extreme decisions because others' positions need not be incorporated into the final decision. If power is unbalanced, the decision may reflect personal loyalties as much
as independent beliefs (Davis, 1969; Gouran, Hirokawa, Julian & Leatham, 1993).

Obviously, this does little to promote teambuilding among all members. Also, because there are definite winners and losers with this method, individual accountability may erode and implementation of the decision can be negatively impacted (Wood, 1988; Sunwolf & Seibold, 1999). However, the very reason voting appears to be a disadvantage is the reason it can be an advantage. For example, when the team is faced with mutually exclusive choices and there are legitimate, but incompatible, irreconcilable positions within the team, voting can be the way to curtail the conflict. A stalemate can be more damaging to team relations, not to mention the team’s task, than the discriminating use of voting.

The method used to bring the team to agreement, to convert talk to action, has implications for the team, the decision and the task. Consensus strengthens commitment, seeks moderate solutions and builds cooperation. Negotiation spurs pragmatic commitment, yields compromising solutions and maintains relationships based on interdependency. Voting saves time, allows for more extreme decisions, and resolution of the issue allows the team to move on to other tasks that can strengthen their cooperative spirit. A description of methods to reach agreement may suggest agreement is something that is done apart from other team discussion functions—structuring, analyzing, and creating—at the end of team discussion. Getting the team to an explicit agreement does bring a sense of closure, especially if
that agreement generates action. However, team agreement is incremental and ongoing in small group discussions.

The above review of research on specific small group discussion procedures provides some insight on how agreed-upon rules or guidelines can better direct communicative behavior to promote a team’s collective actions. Although teams commonly engage in small group discussion, they may not use discussion procedures effectively. Untrained decision making groups have been found to seek convergence over concerns for the task decision quality and/or other member reactions (Hall & Watson, 1970). Untrained groups tend to go directly to determining a solution, skipping analysis even when the problem is less than obvious (Poole, 1991). There is evidence that providing even minimal instruction on discussion procedures provides benefit. In a study investigating the effects of receiving normative instructions prior to a decision-making tasks, researchers found instructed groups to be more creative, produce qualitatively better decisions, and to achieve the synergy bonus more frequently than uninstructed groups (Hall & Watson, 1970). In another study examining the positive effects of providing explicit procedures, researchers also looked at group composition related to individualistic versus collective preference (Nemiroff & King, 1975). Findings showed that instructed groups outperformed uninstructed groups regardless of group composition. The study implies that even when group members are adverse to collaboration, providing instruction on how the
small group discussion will proceed can be a leveler of interpersonal barriers to cooperation. According to Paulus and Van der Zee (2004), few studies have systematically compared trained teams or groups against similar programs for individuals. However, Scheidel and Crowell present a case, based on "thousands of years of speech communication education" that training can lead to significant improvement in discussion abilities (1979, p.15).

Recognizing that small group discussion is served by the effective use of appropriate discussion procures, and that instruction can benefit not only the team's task, but also relationships among team members, the product of this project is a concise reference book of discussion procedures that are used by teams. The organizing framework for the handbook is the Functional Impact Model presented by Sunwolf and Seibold (1999), which categorizes discussion procedures based on four interrelated functions performed by teams. These functions are structuring, analyzing, creating, and agreeing. The handbook describes each discussion procedure and identifies the purpose and function of the procedure. In addition to step-by-step instructions to implement the procedure, the handbook explains how the procedure alters natural discussion to achieve a specific purpose. Specifically, the handbook addresses the ways discussion procedures manipulate a team's communicative behaviors and describes some implications of those communicative behaviors.
The audience for the handbook is the average team member. It is not meant as a facilitator guide or as collection of intervention techniques to fix a dysfunctional team. Rather, the intent of the handbook is to provide members of a team choices for helping the team accomplish an objective, solve a problem or come to a decision. The handbook can be used to 1) find a procedure for a specific task or function; 2) check one’s approach to a specific situation; 3) teach and train others; 4) function as a basic reference; or 5) help sell a particular approach to other team members.
Chapter 3
METHODOLOGY

Materials & Methods

Procedures mentioned in the literature review were included in the handbook, and specific steps for each procedure were compiled.

Approach to Handbook

Scholars generally agree that discussion procedures work by focusing and guiding team member practices to harness strengths and reduce the chance of engaging in faulty processes (Frey, 2006; Hirokawa, 1985; Jarboe, 1996; Pool, 1991). The benefits of procedures include coordination of member thinking, providing an objective set of ground rules, providing protection from bad habits, capitalizing on strengths, balancing participation, managing conflict, providing a sense of closure, offering a means to reflect on the team process, and empowering the team. Not all procedures do each of these things equally well and the handbook noted which one or more of these benefits a team might receive when using a particular procedure.

Poole (1991) offered a topology of discussion procedure attributes that was helpful to compare procedures and to analyze ways a procedure manipulates communicative behavior. The five attributes are scope, restrictiveness, comprehensiveness, group control and member participation. The attribute of scope
considers how general or specific a procedure is. In other words, it looks at how many functions the procedure can cover. An agenda is a high-scope procedure because it can be used for a variety of functions. In contrast brainstorming is a low scope procedure as it focuses on a specific subtask. The second attribute, restrictiveness, is the degree to which the procedure limits the team’s activity. An agenda is low in restrictiveness as it states what the team will talk about, not how to talk about it. Nominal Group Technique (NGT) is highly restrictive as it tightly controls the team’s behavior, stating when members can talk and when they need to be silent. A third attribute is comprehensiveness, which refers to how precisely the steps need to be followed. Some more complex analytical procedures such as Multiattribute Decision Analysis (MDA) are highly comprehensive as they prescribe specific steps to carry out the function. Other procedures offer only general guidelines, such as consensus rules, and are considered low in comprehensiveness. The fourth attribute, group control, is the degree to which the group can manage the procedure by itself rather than having a facilitator or expert run the process. Low group control procedures would include MDA which requires expertise in facilitating the procedure. Consensus would be a high group control procedure as team members are able to employ and enforce the rules themselves. The fifth attribute is member involvement and refers to the number of members who must cooperate in order to apply the procedure. A high member involvement procedure is NGT as it requires all
members to participate. Devil’s Advocate on the other hand, requires only one
person to cooperate and is therefore defined as a low member involvement procedure.
Poole’s procedure attributes were explained in a lead-in section of the handbook and
used as part of an overview of each discussion procedure to point out the ways in
which communicative behaviors are manipulated by the procedure.

Procedures were arranged in the handbook by the four interrelated functions
defined by the Functional Impact Model: structuring, analyzing creating, and
agreeing (Sunwolf & Siebold, 1999). One chapter focused on communication
strategies for providing structure to team talk over time. Sometimes referred to as
macro procedures (Jarboe, 1996), these high-level discussion procedures include
models that sequence topics according to some logical flow. Another chapter
addressed communication strategies for analysis, including fostering of critical
thinking with discussion procedures like devil’s advocacy as well as how to use
decision aids to organize analytical discussions. Communication strategies for
encouraging creativity were included in a separate chapter. Procedures in the
creativity section included idea generation techniques as well as examples of
discussion procedures that employ metaphor and analogy. There was also a chapter
dealing with communication strategies for reaching agreement. These discussion
procedures included voting, negotiation, and forming consensus. In addition to the
procedure chapters, the handbook included a preface, an introduction chapter, a
glossary and a bibliography.
Teams, Meetings, Small Group Discussion and Discussion Procedures

Teams are social structures created specifically to achieve a goal—a goal perceived to be unachievable by a lone individual. The kinds of goals a team can have are unlimited. Teams can be tasked with producing something tangible, like a suspension bridge, a computer system or a marketing campaign. Teams can also be charged with creating intellectual products such as strategic plans, business operating decisions, or industry policies. Since teams are a social structure, they plan and coordinate actions through small group discussion. Often when the stakes of coordinating effort are high or coordination seems important or complex, small group discussion is ritualized.

The ritual used for small group discussion in organizations is a meeting. A time and place are set aside specifically for small group discussion and invitations are sent to participants. Researchers have found that when teams are given a problem, time, and a sense of importance, but no discussion procedures to be used, they will tend to make proposals, discuss them, reject them and make other proposals (Pavitt & Johnson, 2002). This pattern of natural discussions leads to the perception that there is no agenda or the agenda is not followed, nothing is accomplished and discussion goes on too long. These perceptions become the common complaints of meetings.
There is much evidence to support the notion that discussion procedures help teams perform better (Hall & Watson, 1970; Larson, 1969; Nemiroff & King, 1975; Pavitt, 1993; Van De Ven & Delbecq, 1974). Some procedures are better than others for particular situations and specific team goals (Pavitt, 1993). Functional theorists argue that it is not the procedure, but what the procedure can accomplish that is important. For example, teams that clearly define the problem and consider the negative consequences of choices are more likely to produce high-quality decisions (Hirokawa, 1985). Analytical discussion procedures can facilitate this process. When the team needs new or creative ideas, research shows that groups using techniques like Nominal Group and Delphi produced more ideas and higher quality ideas than groups that used no procedures (Van De Ven & Delbecq, 1974). However, merely employing discussion procedures in small group discussions is not sufficient. Members must believe the structures are useful and valuable. Fostering confidence in the use of procedures is a two-step process. First, team members need to understand why procedures work and second, members need to be trained to correctly use discussion procedures.

Discussion procedures work because they are designed to prevent bad habits that detract from productive small group discussion while capitalizing on individual’s intellectual capabilities (Frey, 2006). A good discussion procedure provides a cognitive framework to coordinate individuals’ thinking (Sheidel & Crowell, 1979).
This allows members to contribute individual ideas to a common developing line of thinking, whether it entails divergent or convergent thinking. Procedures protect the team from their own bad habits of premature convergence, routine thinking, and uneven member participation in the discussion. Also, procedures provide a mechanism for measuring accomplishments. For example, lists of ideas generated from a brainstorming session document collective efforts, as does completion of agenda items within set time boundaries.

Procedures also can empower the team by providing an objective set of ground rules. Appropriate communicative behaviors can be governed by an objective set of rules rather than possible uneven sanctions by a leader. Groups with shared, active leadership tend to be high-performing teams (Hackman, 1990; Kauffeld, 2006). Knowing the discussion procedure the team is using, and why and how it works, reduces uncertainty and creates an understanding of the dynamics of group discussion (Poole, 1991). In short, discussion procedures make it easier for teams to interact and exchange messages for the purposes of creating and sharing meaning (Frey, 2006).

**Future Considerations**

Face-to-face interaction has been the gold standard on which we base effective and efficient team communication. However, as advanced information technologies become incorporated into the daily communication routines of workers, the ways teams engage in problem-solving and decision-making discussion is
changing. The advent of computer networks makes possible computer-mediated facilitation of multiparty participation in team meetings. As a result, organizing team talk was taken on as a project of advanced technology developers and transformed into computer-mediated communication. The result is a plethora of technologies that support communication and collaboration grouped under the descriptor, “computer-supported collaborative work” (CSCW). This term is applied to the interdisciplinary field concerned with how groups of people use computing technology in their work (Scott, 1999). Within this broad category are other technologies that support teamwork. Some of the terms used for these technologies include groupware or teamware, electronic meeting systems (EMS), group support systems (GSS) and group decision support systems (GDSS).

GDSS and GSS technologies are perhaps the most relevant to the topic organizing team talk. These terms represent a specific type of electronic meeting system that combines communication, decision-making, and computer technologies to assist teams in problems solving (GDSS) or varied group activities (GSS). Team members using GDSS and GSS have the ability to facilitate and display text and graphics, to employ a common electronic display, and to run application software to aid structuring, analyzing, creating and agreeing. These technologies mimic and replace low-tech face-to-face meeting facilitation aids such as chart paper/white board (common screen), marking pens (text and graphic display) and discussion procedure
instructions, such as those in Organizing Face-to-Face Team Talk: A Handbook for Teams (problem-solving application software). In addition, GDSSs provide electronic paths for exchanging ideas and formulas for integrating the work of multiple members. GDSS and GSS can use only computer-mediated communication, which would include videoconferencing or computer-based messaging, or they can be used within the context of a face-to-face team meeting. Any communication technology, regardless of its features, used by a group/team for collaboration and cooperation is collectively referred to as GCT or group communication technology (Scott, 1999).

Both developers and users of group computer technology (GCT) anticipate benefits of better, faster and less expensive small group discussions. However, the research does not clearly support the anticipated benefits. A 1999 review of literature did not find consistent results related to group computer technologies versus face-to-face interaction (Scott). In both laboratory and organizational settings, some studies reported improvement in group performance, meeting efficiency or member satisfaction using group computer technology systems. Other studies showed lower performance, efficiency and member satisfaction. A large number of findings related to the performance of groups indicated no differences. Scott (1999) identified measurements and methodologies as part of the variance in the studies. However, just documenting the inconsistencies of research studies accepts the technocentric
view that assumes technology is to be applied in the same way in all groups for all

tasks. It is more likely that teams will adopt features of a technology as it fits their

needs, just as discussion procedures are adopted and modified according to the team,

the task and the expected outcome (Pavitt, 1992; Pool & Roth, 1989a, 1989b).

DeSanctis and Poole (1994) support this view with their social technology

perspective. This perspective says technology and social practices operate jointly to

produce results.

Having a communication theory of discussion procedures might be helpful to

explain how GCT and team social structures mutually shape one another over time.

However, as the review of literature in this paper found, no theory of discussion

procedures exists. The body of research points only to their purpose and offers

prescriptive advice for their use. The purpose of discussion procedures is to structure

member thinking and associated discussion. Discussion procedures also save the

team from its own bad habits, such as conflict avoidance and premature convergence,

which tend to arise in free discussion.

Absent a theory, insight into how team talk may be impacted by GCT might

be gained by answering the same questions asked about organizing face-to-face team

talk: What does the team talk about? How do they talk about it?

*What the team talks about.* By definition, teams do something. Therefore,

small group discussion, computer-mediated or face-to-face, is about coordinating
activities in the pursuit of a common goal. It had been assumed that computer mediated communication would increase the number of task-focused messages over relational communication. However, McLeod (1996) in his review of literature on new communication technologies for group decision making found no consistent or clear evidence that task-oriented communication increases with GCT compared to face-to-face communication.

Teams talk about data/information, task status, ideas, proposals, or alternatives. In addition, teams spend time on procedural communication, such as talking about how to proceed as a team, use of time, and methods to combine efforts. For face-to-face teams, procedural issues can occupy a substantial portion of the team’s time (Putnam, 1979). GDSS literature does not specifically note procedural communication, however, groups informed about the underlying philosophy (e.g., democratic decision-making) and goals of the technology obtained significantly higher levels of consensus over groups that were only instructed on features of the technology (DeSanctis and Poole, 1994). This communication about the “spirit,” or the underlying values and goals, supplies a framework with regard to appropriate behaviors and work methods in the context of the technology. The nature of team talk related to procedures imposed by technology is an area to be explored in future research studies, especially how it relates to individual and team preference for procedural order.
How the team talks about it. A large portion of a team’s work is not about decision-making per se, but about developing shared meaning of problems and possible solutions. It appears that the intent of GCT is to take the place of, or at least augment, discussion procedures that facilitate exchange of messages to create and share meaning. Just as discussion procedures structure small group discussion, GCT features impose explicit rules on the team’s process. Both decision quality and member satisfaction improve in face-to-face groups where high amounts of structure are imposed by the team’s leader (Gouran, 1985). Whether the same is true when structure is imposed by a technology is an area for future research. Incorporating discussion procedures into technology systems may make them seem more impersonal and make it harder for team members to “own” the process. The effectiveness of GCT procedures may also depend on how they are designed into the systems and how they are implemented in ongoing teams. GCT procedures that require a specialized facilitator or technician may result in perceived loss of control by the team, reducing the empowerment and self-awareness advantages procedures can offer, not unlike complex face-to-face discussion procedures.

One of the most obvious distinctions between GCT and face-to-face small group discussion is that GCT does not require team members to be physically present in the same time and space. Team members that collaborate from different locations are known as virtual teams. Although the GCT literature has not made mention of the
meeting ritual (pre-discussion preparations, invitations, etc.) it does acknowledge there are occasions for increased interaction among team members (Scott, 1999). It would seem that with GCT the meeting ritual would retain its purpose to reinforce a sense of team identity, create social bonds and reduce anxiety (Frey and Sunwolf, 2005).

In non face-to-face meetings, computer-mediated communication can be video or audio conferencing technology (teleconference) or it can use text only (computer conference). How effective each of these mediums of communication is for any particular task has been predicted using media richness theory (Sheer & Chin, 2004). The theory says that complex tasks such as conflict resolution and negotiation require rich media. Rich media is defined as the existence of feedback, multiple cues, language variety and personal focus. Lean media is seen as numeric data or simple text. Uncomplicated tasks, such as information exchange can be accomplished using lean media.

The media richness theory has been criticized for ignoring context and assuming a passive receiver of communication (Fulk & Boyd, 1991). Since a team is defined by its communication patterns, (Ellis & Fisher, 1994; Frey & Sunwolf, 2005; Poole & Hirokawa, 1996), team members are necessarily active participants in receiving and interpreting messages. According to Adaptive Structuration Theory (DeSanctis and Poole, 1994), teams appropriate available technology for their own
purposes and may or may not use it in the manner it was intended. Of interest to organizing team talk is how team members adapt to the restrictions of the media they use. What follows are some examples of how computer-mediated communication can be adapted to accomplish team tasks.

Because teams need to collaborate and cooperate to accomplish their common goal, it is important that members maintain a supportive climate through positive interaction (Broom and Fulbright, 1995). Communicative behaviors that contribute to a supportive climate include description, problem-orientation, spontaneity, empathy, and equality (Gibb, 1961). To be successful, teams using computer-mediated communication need to convey relational messages, or messages that build and maintain relationships among team members. However, a review of computer-mediated communication research showed a decrease in the quality of relational messages compared to face-to-face interaction (McLeod, 1996). Specifically, communication was found to be unrestrained and negative. Explanations for these findings included the absence of nonverbal cues, less social feedback and lower self-awareness. Taking into account developmental patterns of team communication (Fisher, 1970; Tuckman and Jensen, 1977; Wheelan, 2005), Walther and Burgoon’s 1992 study found that over time relational messages increase to the levels of face-to-face groups. Participants in the Walther and Burgoon’s (1992) study eventually found interactive strategies to convey relationally positive messages. Some examples
were nicknames and redundant signatures with typed-out graphics. Relational communication has also been helped by implementing explicit rules for computer-mediated communication. Walther and Bunz (2005) found having virtual teams follow a few simple rules, such as to acknowledge all communication, correlated with member perceptions of trust and group satisfaction.

Another feature of GCT that has received much attention is anonymity. Anonymity is intended to foster full team participation by eliminating status differences and any member’s fear of judgment and negative evaluation. Heralded in GDSS literature as promoting democratic decision-making, this view gives the benefit of anonymity to the message sender. The message receivers on the other hand have a void of information associated with the anonymous message. Attribution Theory (Heider, 1958) reminds us that we tend to “make up” what is left out of the communication related to the source, its credibility and relevance. If the message does not agree with a member’s predisposition, the message and its source will likely be discounted. Rains (2007) used intact project teams to determine the effects of anonymity in a decision making group. He found that although anonymity may make one more comfortable participating in the group discussion, it may also undermine perceptions of one’s contributions.

Mijias (2007) conducted a study that compared member satisfaction in computer-mediated communication (CMC) groups where members’ identities were
known and anonymous CMC groups. Identified members of CMC groups had more process loss and reported lower outcome satisfaction and lower process satisfaction. Process loss is identified as communicative behaviors that prevent the group from maximizing its potential or getting a synergetic bonus. In anonymous CMC groups, process losses had no effect on satisfaction with either the group’s outcome or process. This study’s finding suggests that anonymous members did not feel responsible for the team’s process or product. Therefore, use of anonymity may detract from a feeling of “teamness” which is important for on-going collaboration and cooperation.

It should be noted that several face-to-face small group discussion procedures make use of anonymity. There are times when candid input is beneficial for the team’s goal, and anonymous contribution is a strategy to overcome communication barriers. However, in on-going project teams, there is an expectation of openness among members. Overusing an anonymous strategy invites erosion of trust and cooperation whether communication is computer mediated or face-to-face.

Looking at what teams talk about and how they talk about it using GCT shows that these technologies appear to serve a similar purpose as face-to-face discussion procedures. That purpose is to maximize the intellectual potential of a small group of individuals to produce an outcome, which all members support. GCTs vary in the amount of restrictiveness, or how much they limit the team’s free interaction.
Practitioners tend to select discussion procedures that fit a particular task need and may faithfully follow the instructions or may customize them for the team and/or the outcome expected. Adoptive Structuration Theory (DeSanctis and Poole, 1994) predicts that teams will implement GCT in the same way—fitting them to meet the team’s needs. DeSanctis and Poole see teams as exercising choice in the use of features offered in a GDSS as well as using “work arounds” to adapt the features to their needs.

From the earliest application of Dewey’s (1910) Reflective Thinking to small group discussion and divergent thinking techniques applied to groups (Osborn, 1963; VanGundy, 1988), the goal of discussion procedures has been to provide a cognitive framework to coordinate individuals’ thinking to allow multiple individuals to contribute to a common developing line of thinking. In addition, discussion procedures protect the team from bad habits of premature convergence, routine thinking and uneven member participation. Functional theorists (Gouran & Hirokawa, 1996) tell us that high-quality decisions can be impacted by ego constraints (dominating members), affiliative constraints (members not getting along or getting along too well) and cognitive constraints (e.g., information overload, too little time and/or resources). Teams of the future will benefit from GCT that appear to vigorously address cognitive constraints by promising record-keeping capabilities, calculations and data storage. Additionally ego constraints may be countered with
system restrictions on input sequencing and also strategic use of anonymity features. GCT does not directly mitigate affliative constraints, but these can be creatively addressed through computer-mediated communication (Walther and Bunz, 2005; Walther and Burgoon, 1992).

Teams of the future that rely on GCT to direct what the team will talk and about and how they will talk about it will do well to consider what we already know about face-to-face small group discussion procedures. Although developers of technology promise better decision-making capabilities, the value of technology will remain in faster, more accurate computing rather than faster, more accurate communication. More accurate communication would be welcomed, but it is dependent on too many variables for technology to take the credit or the blame. Faster communication is not always helpful in teams. From what we know about face-to-face discussion procedures, a big part of their value is in slowing the process down to counteract sloppy thinking (Poole, 1991). Procedures are meant to feel “unnatural” in order to foster critical thinking, divergent thought and considered evaluation. GCT runs the risk of automating the decision-making process so much that it becomes a sort of check list of things teams do. Even functional theorists acknowledge that simply performing all functions of decision making does not guarantee a quality product (Gouran & Hirokawa, 1996). As GCT becomes a normal part of team interaction, research needs to address not only what functions and
features contribute to better decisions making, but also to investigate the unintended consequences of automating the interrelated functions of structuring, analyzing, creating and agreeing. The future research agenda for small group discussion needs to address how we can better organize team talk.
APPENDIX
Organizing Face-to-Face Team Talk

A HANDBOOK FOR TEAMS
Organizing Face-to-Face Team Talk

A Handbook for Teams

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Preface

Whether a team's common goal is to build something tangible or to develop an intellectual product, coordinating actions requires collective thinking. Unlike individual thinking which can be internal and implicit, team thinking needs to be observable, explicit and communicated. Therefore, in addition to having a clear understanding of their goal, a team must also give some thought to how they will “think together.” In other words, it needs to consider processes and procedures they will use to ensure systematic and sound thinking. Small group discussion is one way teams accomplish collective thinking.

This handbook is a reference book for small group discussion procedures used by teams to coordinate their collective thinking processes. A discussion procedure is designed for some specific purpose within a limited range of conditions. How a discussion procedure helps you achieve the purpose of your small group discussion, such as information sharing or brainstorming, is called its function. Discussion procedures in this handbook are grouped by their function. The four separate, but interrelated, functions of discussion procedures are:

- To Provide Structure
- To Facilitate Analysis
- To Encouraging Creativity
- To Get Agreement

Discussion procedures that provide structure delineate sequencing of topics and how they will be addressed. The chapter Organizing Team Talk Through Structuring includes types of agendas and other discussion procedures that specify not only the order, but also how proposals must be introduced into the discussion. The Organizing Team Talk for Analysis chapter provides procedures to help interrogate proposals and prioritize choices. Group argument and decision aids such as
PREFACE

decision trees and weighting schemes are examples of procedures that aid analysis and prioritization. The chapter Organizing Team Talk for Creativity has procedures that do exactly that. Included in this chapter is Brainstorming, the most commonly applied technique to generate ideas by imposing deferment of judgment. Agreeing procedures serve to solicit individual member’s preferences, manage conflict and bring the team to consensus. The chapter Organizing Team Talk to Get Agreement includes consensus rules, negotiation and voting.

The handbook describes each discussion procedure and gives step-by-step instructions to execute the procedure. In addition, there is an explanation of how the procedure alters free discussion to achieve a specific outcome. Specifically, the handbook points out ways discussion procedures manipulate a team’s communicative behaviors and describe some implications for the team’s performance.

If you want a recipe book of intervention techniques to fix a dysfunctional team—you need a different book. The intent of Organizing Face-to-Face Team Talk is to provide information to anyone who is a member of a team to her/him select an appropriate discussion procedure, or to modify a routinely used discussion procedure, or to help their team accomplish an objective, solve a problem, or come to a decision.

Your team may have a handful of small group discussion strategies that it currently uses to some degree of success. Agendas and some variation of brainstorming are commonly used in small group team discussions. When you suggest a new discussion procedure, your team may be reluctant to try it because it is too complicated, takes too much time or seems “unnatural”—all of which are probably true. Discussion procedures do slow the process down to allow thinking to be observable, explicit and communicated. Procedures designed to balance participation will seem unnatural to talkative members as well as to more quiet members. Organizing team talk with discussion procedures takes effort and uses time and energy that would otherwise be devoted to the task at hand. What’s more, the payoff for a new discussion procedures may not be
known until it manifests itself in higher quality, enhanced creativity, or greater team commitment sometime in the future.

Teams under schedule and budget pressures will argue to "go with what we know." However, sometimes when working on a problem it may be difficult to realize that the tool—the small group discussion procedure—the team is using is not getting the job done. If your team is experiencing difficulty accomplishing its task and you feel a new discussion procedure will help but the team says it does not have time, try telling the following story to help make your point.

I was working late one evening when the janitor came in to vacuum the office. I noticed that she was pushing the vacuum cleaner back and forth over some lint on the carpet without getting it up. I smiled and shouted to her (the machine was loud), it must be frustrating to have to use that vacuum cleaner. She looked at me with a sad smile and said, not as frustrating as being told to do it over.

This handbook is based on the body of communication research which supports the notion that discussion procedures help teams perform better. Teams that understand the characteristics, as well as the purpose, of the discussion procedures they use have an easier time interacting and creating common understanding in pursuit of the team's common goal.
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**Decision Making**
A process of deliberation, choice and planning which involves the gathering and processing of information, problem definition, solution search, analysis and evaluation of alternatives, selection of a course of action and planning for implementation. Decision making reflects the social thinking and political processes that are prerequisites for taking action.

**Problem Solving**
The communication processes team members use when their task is to overcome some unsatisfactory situation or obstacle to achieving a goal.
Introduction

Teams are made up of people who coordinate their individual efforts toward a common goal. Some ways that teams coordinate efforts are:

- Assignment of roles and responsibilities
- Agreement on acceptable and unacceptable behavior
- Mutual understanding of success
- Shared knowledge of work methods

Sometimes these things are implicit in the actions of team members. For example, if Pat begins documenting the team's progress and no one says anything, Pat takes on the role and responsibility of team scribe. The behavior of recording the team's progress is accepted and agreed to as a routine work method. Often when the stakes of coordinating effort are high or coordination seems important or complex, teams call a meeting to explicitly discuss such things as roles, responsibilities, objectives, and methods.

Meetings

Team meetings have a ritualistic nature in that there is a detailed procedure regularly followed to initiate the meeting. Prior to the meeting, a specific time period is set aside and members are extended an invitation. At the meeting time, invited team members will temporarily sequester themselves physically from the rest of the organization, such as in a conference room. People normally sit at one large table where ideally everyone has a clear view of all the others. Researchers have found that this meeting ritual reinforces a sense of team identity, creates social bonds and can help to reduce anxiety. The ritualistic nature of the team meeting points to the importance placed on team discussion in organizations and discussions within meetings somehow generate higher expectations, and a greater sense of disappointment, than other types of communication in organizations.

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Small Group Discussion

The interaction among a small number of people for the purpose of achieving a common objective; a tool teams use to arrive at sound judgments

In general, the purpose of any face-to-face team meeting is to provide an opportunity for people to talk to and (hopefully) to listen to each other. Studies report that five to twelve members is most favorable to maintain active involvement in a meeting, with seven being the optimal number of participants. Team meetings, with limited participants, provide a way to advance the team's progress toward their common goal using small group discussion. Through small group discussion a team can:

- Share information
- Generate possible solutions/approaches
- Correct errors in logic and examine assumptions
- Generate motivation
- Increase commitment to decisions

In other words, face-to-face discussion among a limited number of people -- a small group -- is a tool teams use to coordinate effort. In fact, it is probably the best tool a team has to achieve a common goal. Researchers have found that when teams are given a problem, time, and a sense of importance, but no discussion procedures to be used, they will tend to toss out ideas, discuss them, reject them, come up with other ideas and many times rehash previously rejected ideas. This pattern of free discussion leads to the perception that there is no agenda or the agenda is not followed, the discussion goes on too long, and nothing is accomplished. These perceptions are the common complaints of meetings. Judging from frustrations commonly expressed regarding meetings, free discussion is not always adequate for productive team interaction. To help ease these frustrations, teams often set some rules for their small group discussions.

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Discussion Procedures

Sets of rules or guidelines used to achieve specific goals.

What Discussion Procedures Do

- Coordinate Thinking
- Set Objective Ground Rules
- Avoid Bad Habits
- Capitalize on Strengths
- Balance Participation
- Surface Conflict & Manage Conflict
- Promote Sense of Progress
- Encourage Team Self-Reflection
- Empower the Team

Discussion Procedures

Discussion procedures are rules or guidelines the team uses to organize their face-to-face talk to achieve specific goals. The positive intent of discussion procedures is to help the team capitalize on its strengths and at the same time avoid bad habits that emerge during free discussion. These rules or guidelines declare what the team will talk about and also how they will talk about it. For example, if the team uses brainstorming, then talk will generate ideas by listing as many ideas as possible without evaluation. Like rules of a playground ball game each person agrees to a general set of rules in order to play together. On the playground boundaries are set and “who’s up next” is determined so that everyone knows when the ball goes out of bounds and when it is the next person’s turn with the ball. However, boundaries can be moved and more talented players may take the ball more often than the others. Altering the rules during play can make the game more fun, or it can make it more frustrating. Discussion procedures work in a similar fashion. Discussion procedures set boundaries by stating what subjects are discussed within a certain time frame, declaring others out of bounds, or off topic. Procedures can also tightly control participation or allow team members to jump in the conversation at any time. Sometimes the team may benefit by having more talented (or knowledgeable) players dominate the discussion, other times it may be better to have everyone participate equally. Just like rules for the playground, discussion procedures can help the team be more productive and have fun, or they can frustrate the team and stall progress.

A good discussion procedure provides a mental framework, or context, to coordinate individuals' thinking. Providing context allows each member to contribute her/his own ideas to a common developing line of thinking, whether it requires creative or critical thinking. Procedures that guide discussion protect the team from its own bad habits such as rushing to agreement, routine thinking patterns, and uneven member participation in the discussion. Procedures not only help manage time constraints and information—too much or too little—but also
help deal with other pressures of team interaction such as the need to get along with each other, the desire to be liked and the need to maintain one’s own individuality.

In addition, discussion procedures provide a way to measure accomplishments. For example, lists of ideas generated from a brainstorming session show the team’s collective effort. Completion of agenda items within a time limit documents issues discussed and actions taken. Procedures also can empower the team by providing a means for self-monitoring. Appropriate team behaviors can be governed by an objective set of rules rather than sanctions by a leader, which may be made unevenly—intentionally or unintentionally. Discussion procedures make it easier for teams to interact together in order to share knowledge, generate ideas, evaluate information and come to agreement on actions necessary to meet their common goal. In short, discussion procedures organize face-to-face team talk.
Organizing Team Talk
Five Basic Concerns
Three Key Considerations

Basic Concerns

When people are asked to participate in a face-to-face team discussion with a small number of other team members, they will most likely want to know the purpose of the discussion and what their role will be. Discussion procedures attempt to reduce uncertainty of the team members by addressing five basic concerns people have when asked to participate in small group discussion: why, who, when, what and how. A good discussion procedure will set the context for team talk to answer why the team is talking. Who gets to talk is often a part of discussion procedure rules and closely tied with when a member gets to talk, including how often, in what order at what specific times. What gets said can include the topic as well as types of contributions expected such as evidence giving, opinion stating, questioning or idea generating. How contributions are made in team face-to-face discussion can be part of discussion procedures. For example, some procedures have members write down their ideas or comments and other procedures incorporate hand signals. These five factors, why, who, when, what and how, are coordinated through rules and guidelines the team applies to their small group discussions.
Key Considerations

Choosing the ‘right’ procedure depends on three things: the task, the team and the desired outcome. There are procedures designed to accomplish very specific tasks and others that offer general guidelines for small group discussion. Some discussion procedures are very easy for your team to use. Others have multiple, complex steps that require training or a professional facilitator. The outcome of one procedure may produce a quality product at the expense of team relationships. Other procedures may result in a less-optimal result, but create a more cohesive team environment. When considering a discussion procedure for your team, think about your short-term objectives, such the specific task you want to accomplish, how experienced the team is with the procedure, and the long-term consequences such as team cohesiveness.

First, consider what you want to accomplish in a small group discussion. Will the team be sharing information, generating ideas, defining a problem, analyzing a situation, evaluating alternatives, planning an implementation or something else? Discussion procedures are designed with some purpose in mind and to fit a limited range of conditions. Communication scholar Arthur VanGundy, Jr.\(^4\) identified 105 techniques used to accomplish team functions of defining a problem, generating ideas, evaluating ideas, and implementing solutions. In the industrial engineering discipline, Paul Nutt\(^5\) identified over 47 distinct procedures teams use to manage problem-solving and decision-making tasks.

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It is important to know your objective for the team’s small group discussion. A discussion procedure provides the mental framework to coordinate collective thinking. The choice of a discussion procedure is a particularly important factor when the team’s task is unclear. For example, suppose the team gathers with the purpose of developing a new product idea. If the team uses Synectics, a technique for creating an environment that encourages creative approaches to problem solving, the task will be defined as a creative task. However, if the team uses brainstorming, it will be deemed an idea generation task. Then again, if a categorizing method such as a T-Chart is used to list ideas, the task is seen as analytical. Teams sometimes mold their ideas about tasks, and therefore the results, to the procedures with which they are familiar. This can be a problem if the task definition suggested by the selected procedure is not suited to demands of the situation.

A wide variety of discussion procedures are available. Decide what you want to accomplish and consider the type of task. For example, if you want the team to share information, you may need only an agenda to delineate topics or speakers. On the other hand, you may want the team to analyze a problem, or evaluate solutions or come up with ideas. Each of these tasks requires the team to think together in a specific way. Using an agenda promotes linear thinking, focusing on one topic at a time. Analysis requires critical thinking, evaluation needs divergent and convergent thinking, and idea generation invokes creative thinking. Unlike individual thinking which can be internal and implicit, team thinking needs to be observable, explicit and communicated. Therefore, the discussion procedure selected needs to promote communication that supports the type of collective team thinking required for the task.

Discussion procedures vary in the types of teams for which they are appropriate. Some procedures work best with a few team members, others are better with a larger number of members. Some procedures require that the team receive special training, while others can be used with little advance
preparation. As a rule of thumb, if the team does not have the knowledge or skills a discussion procedures requires, don't use it.

This does not mean, however, not to introduce new procedures to the team. In fact, the team's experience with a task may influence its acceptance of new procedures. If the team has experienced problems accomplishing their task, they may be more open to trying something new that promises to reduce problems or speed up work on the task. Letting the team struggle with a task without discussion procedures is sometimes necessary to get members to try a new procedure.

The team's climate should also be considered. Climate is a construct which refers to members' general attitudes about the team. Just like weather climate is categorized by warmth and coolness, team climate is measured by the warmth or coolness of relationships among members. A few dimensions of team climate include openness of communication, level of participation, and individual members' goal alignment with team goals. Internal relationships can diminish the effectiveness of certain procedures. Highly cohesive teams that value supportive communication may fail to clearly express critical concerns of other member's proposals, which can lead to lower-quality decisions. On the other extreme, a team in which members hold resentments toward each other may also fail to consider critical concerns. For example, Devil's Advocate introduces disagreement as a way to more deeply interrogate suggestions, but can also heighten existing hostilities.

Different procedures lead to different outcomes. In project management the three most important factors that determine quality outcomes are time, cost and scope. Usually represented by a triangle, this 'triple constraint' has been replaced by a project management diamond, with time, cost, scope and quality as the four vertices and expectations as a central theme. Time is the allocated time to complete a task, cost represents the amount of money and resources needed, and scope
INTRODUCTION

represents the fit-to-purpose. Triangle or diamond, the lesson is the same: time, cost, scope and quality are interdependent. The same is true when selecting discussion procedures. As an illustration, Multiattribute Decision Analysis (MDA) is a procedure for formal analysis of alternatives, sometimes requiring computer programs to assist the team with complex calculations to compare alternatives. The procedure leads to a high-quality action plan, but requires considerable investment of time and effort. However, if quality is less important and time and resources are a concern, a faster, simpler method to generate and evaluate alternatives may yield the better outcome in this situation.

Outcome is not limited to decision or solution quality. Other considerations are team commitment, member satisfaction and implications for future team interaction. Sometimes, these factors trump decision quality. An example of when this might be the case is when the team needs to generate lots of ideas. Substantial research shows that interacting members of brainstorming groups generate fewer ideas, as well as lower quality ideas than noninteracting groups. However, brainstorming methods create enthusiasm among team members and members have a perception of having generated more ideas as a team than they would have individually. The goal of the team should drive what discussion procedures it uses. For example, if idea generation is the overriding goal, there is clear evidence that Nominal Group Technique (NGT) outperforms other methods. On the other hand, if team cohesiveness and team satisfaction is a primary goal, then brainstorming is the way to go.

INTRODUCTION

**Procedure Characteristics**

A discussion procedure is designed to accomplish a purpose within a limited range of conditions. A good way to determine if a particular discussion procedure fits the needs of your task, your team and your desired outcome is by looking at the characteristics of the discussion procedure. Knowing the characteristics of a discussion procedure not only helps to compare discussion procedures for a fit to the task, the team and the outcome, but also can help you know how to modify a procedure for a better result.

Characteristics help to identify or describe something. To help illustrate the concept of characteristics, think of a chair. The chair at your desk and the chair you use to relax in your living room have different characteristics, but you recognize both as a chair. All chairs have certain common characteristics: a flat part for sitting, some legs for supporting the flat part and an upright piece extending from the flat part. The flat part, the upright part and the legs are characteristics of a chair. These characteristics can differ in a number of ways. For example, the flat part can be padded or hard. There could be long legs or short legs. The back could be perpendicular to the flat part or connect at an angle. Depending on how you plan to use the chair, you select a chair with different characteristics. If you are going to sit in the chair for any length of time, you may want the flat part to be padded. If you are using the chair to reach the top self of a cupboard, a hard flat surface would be a better choice.

Just as the look, feel and purpose of a chair can change by altering one or more of its characteristics, small group discussion can be affected by the characteristics of a discussion procedure. Therefore, knowing a discussion procedure's characteristics can assist your selection of the 'right' procedure for the task, the team and the desired outcome.
Here are the five characteristics of discussion procedures to take into consideration:

- **Scope** - how specific is its purpose
- **Restrictiveness** - to what degree is communicative behavior limited
- **Precision** - how strictly must the procedure steps be followed
- **Team Control** - how easy is it for the team to use; skill level required
- **Member Involvement** - level of participation in terms of number of members needed to be successful.

These characteristics can be assessed simply by rating the characteristic low, medium or high for any procedure. For example, brainstorming is used for a specific purpose, so its scope is low. On the other hand, consensus rules is used for many team activities, therefore it is a high scope procedure.

To further explore the idea of discussion procedure characteristics and how they can be measured, let's compare two discussion procedures, Consensus Rules and Brainstorming.

First, let's look at the characteristic **scope** which considers if a discussion procedure has a specific purpose, low scope, or can be used for a variety of small group discussion activities, high scope. Consensus Rules is a high scope procedure as it can apply to any team task, such as developing ideas, planning, and implementing. Brainstorming is a low-scope discussion procedure because it applies to a specific team subtask—the generating of ideas.

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6 Adapted from a topology by M. S. Poole.

I N T R O D U C T I O N

Procedure Characteristics

Scope
Restrictiveness
Precision
Team Control
Member Involvement

The next characteristic, restrictiveness, is the degree to which the procedure limits the team's communicative behavior. Consensus Rules would be low in restrictiveness as it does not specify any communicative behavior, such as when a person can speak or the specific way thoughts need to be formed. Brainstorming is more restrictive in that it has rules that specify the type of communicative behavior—say ideas, no evaluation.

The precision characteristic indicates how strictly the steps prescribed by the procedure must be followed. Consensus Rules give only general guidelines for performing this procedure, so are low in precision. On the other hand, brainstorming is has a higher degree of precision because the rules are specific.

Team control rates the degree to which the team can manage the procedure itself rather than having a facilitator or expert run the process. Both Consensus Rules and Brainstorming are high in team control as members enact and enforce the rules themselves. A more complex procedure like Multiattribute Decision Analysis (MDA) would be low in team control as it requires expertise in facilitating the procedure.

Member involvement refers to the number of members who must cooperate in order to apply the procedure. Consensus Rules is high involvement because it requires all members to participate, as well as Brainstorming which works best when there is full participation of team members. An example of low member involvement would be Devil's Advocate, which requires only one member to cooperate.

Procedure characteristics are important clues in choosing discussion procedures for your team. For example, suppose the best resources to accomplish your task are team members who tend to dominate small group discussion and often take the conversation off topic. To accomplish your task effectively, you might consider a procedure that is high in restrictiveness and low in team control. The explicit rules in some procedures severely limit communicative behavior and may eliminate verbal communication altogether. Low team control means that a
A trained facilitator is required, who can control the small group interaction. The Delphi Technique is a procedure that is both high in restrictiveness and low in team control. Delphi pools member contributions without discussion, providing feedback in written form only. Another example where knowing procedure characteristics may be helpful is when you need full member involvement and your team members tend to be reflective and less vocal in small group discussions. A high restrictive procedure such as Nominal Group Technique (NGT) can help get more input from members and more active participation because NGT imposes periods of reflection and writing of one’s thoughts prior to verbal interaction.

Knowing procedure characteristics can also help you modify a procedure the team uses regularly to make your small group discussion more effective. An agenda can be modified from low restrictiveness to high restrictiveness by assigning times for speaking, order of presenters, and when questions or comments can be offered. A high precision procedure like Robert’s Rules of Order can be made less precise, but still maintain its purpose, by modifying or eliminating steps. The degree of team control can be changed by training team members on the procedure and alternating the facilitator role among team members.

Teams often modify discussion procedures to save time, or because a procedure is too restrictive and seems “unnatural”. Being aware in what way a procedure has been modified can be helpful in diagnosing the team’s small group discussions. Did the team use a high-scope procedure when they really needed to focus on a particular type of thinking? Was the procedure too restrictive and therefore spontaneous thoughts were not captured? Did the team take shortcuts in steps of a high precision procedure? Did the team try to use a procedure that really needed a trained facilitator? Was there low participation when the procedure needed high member involvement to be successful? Just as looking at characteristics of a chair help to determine its fit to your purpose, awareness of the characteristics of a discussion procedure help you to find a good fit for your task, your team and the team’s outcome.
Table 1
Comparison of Brainstorming and Consensus Rules Procedure Characteristics

<table>
<thead>
<tr>
<th>Procedure Characteristics</th>
<th>Brainstorming</th>
<th>Consensus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scope</td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td>Restrictiveness</td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td>Precision</td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td>Team Control</td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td>Member Involvement</td>
<td>Low</td>
<td>High</td>
</tr>
</tbody>
</table>
Organizing Team Talk Through Structuring
Organizing Team Talk Through Structuring

When the team engages with a purpose, it needs a game plan to manage the work and to progress toward your common goal. The same is true when the team meets for small group discussion. One common use of discussion procedures is to provide a plan, or a structure, for what things the team will talk about and in what order they will talk about them.

These plans can be general or detailed. They can be comprehensive and cover multiple small group discussions or only one small group discussion about a specific task. Some plans are broad and set down required steps to be performed in specific sequence. For example, teams may use a problem-solving approach like a system development lifecycle, product development cycle, or strategic planning cycle to explicitly arrange topics addressed in discussions over a long period of time, such as the duration of a project or a business cycle. These planning models move the team, over time, through an orderly sequence beginning with discussion of the nature of the problem, through solution development, and finally deciding how to implement their solution. Within these overarching plans, sub-problems are tackled and decisions made about them. Other plans are made for shorter time periods, or for specific tasks. Large or small, these plans help the team coordinate member thinking, which needs to be observable, explicit and communicated, by structuring the order of topics to be discussed by team members.

The most familiar discussion procedure used to structure team talk is the agenda. Defined in the Oxford English Dictionary as a list of things to be done, an agenda identifies the issues that are going to be considered within a specific time frame. The
two types of agendas most commonly used by teams are problem-solving agendas and issues agendas.

A problem-solving agenda is a plan or strategy to move the team through steps of a decision-making model on a time-compressed scale, focusing on a specific issue or subproblem. Many problem-solving strategies are based on Dewey’s reflective thinking model. John Dewey, an American philosopher, identified a five-step systematic approach to problem-solving. Originally presented as a method to train individuals to think well, reflective thinking has become a common method for small group problem solving. You have probably used the reflective thinking, or a variation of it, for problem solving tasks. The five steps of Dewey’s model are:

1) perceive a problem or difficulty; 2) define the problem or difficulty; 3) suggest possible solutions or explanations; 4) evaluate possible solutions or explanations; 5) choose a solution or course of action.

A second type of agenda is the issues agenda which lists discrete items to be discussed individually. Issues agendas are a linear strategy in that once an item is completed, either by closure or time allocation, the item is not expected to be revisited in the same meeting. Because discussion topics may be disconnected, issues agendas can be a tool to measure progress of the team’s small group discussion, even more than problem-solving agendas where there is a logical progression of discussion topics. The agenda provides a kind of road map showing all the places (topics) to be visited before getting to the end of the journey. Since agendas only direct the team what to talk about, not how to talk about it, free discussion that ensues may lead team members off topic and the issues agenda can be used to reorient the discussion.

Another organizing structure worthy of mention because it so strictly controls communication is Robert’s Rules of Order.

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Also known as parliamentary procedure, these rules delineate the order and ways proposals are considered and the enforcement of the rules themselves. These structuring discussion procedures prescribe communicative behavior by explicitly dictating speaking order and how proposals are phrased. Originally intended to promote democracy through small group discussions, this structure is considered too complex for routine team discussion. However, teams sometimes adopt Robert’s Rules for Committees, which are less complex than formal procedures used by larger groups. For example, there is no need to make points of order, table motions, or request personal privilege. Virtually anything can be discussed informally under these guidelines.

Some research suggests that teams function better because they maintain order and avoid conflict when they use organizing structures that set boundaries, timing, and order of discussion3. You may find some team members actually prefer some type of structure to their small group discussions. In fact, leadership studies have shown that both decision quality and member satisfaction improve with a structuring style of leadership4. However, too much structure, in the form of explicit instructions, time frames and role assignment may dampen the team climate. Also, good ideas may be lost because the topic is not on the agenda or it is not the time to bring up the subject.


Remember the three key considerations when structuring team small group discussions: the team, the task and the expected outcome. How much structure does the team really need or want? How complicated is the task and how likely it there will be conflict or the discussion will get sidetracked? Does the team expect a free exchange of ideas or does it anticipate getting specific information? As team members become more aware or how they organize their team talk, they can adjust the structure to better meet their needs.
Issues agendas are a linear strategy for organizing team talk in that once an item is completed, either by closure or time allocation, the item is not expected to be revisited in the same meeting. Because discussion topics may be disconnected, issues agendas can be a tool to measure progress of the team’s small group discussion. Since agendas only direct the team what to talk about, not how to talk about it, free discussion that ensues may lead team members off topic and the issues agenda can be used to reorient the discussion.

**Team Uses for This Procedure**

- Coordinate Thinking
- Set Objective Ground Rules
  - Avoid Bad Habits
  - Capitalize on Strengths
  - Balance Participation
  - Surface Conflict
  - and Manage Conflict
- Promote Sense of Progress
  - Encourage Team Self Reflection
  - Empower the Team

**Issues Agenda**

**Procedure Characteristics**

<table>
<thead>
<tr>
<th>Scope</th>
<th>High</th>
<th>Can be applied to any task</th>
</tr>
</thead>
<tbody>
<tr>
<td>Restrictiveness</td>
<td>Low</td>
<td>Team behavior is not controlled</td>
</tr>
<tr>
<td>Preciseness</td>
<td>Low</td>
<td>Usually no guidelines for discussion</td>
</tr>
<tr>
<td>Team Control</td>
<td>High</td>
<td>The team can apply this procedure itself</td>
</tr>
<tr>
<td>Member Involvement</td>
<td>Varies</td>
<td>Depends on the agenda issues</td>
</tr>
</tbody>
</table>
An issues agenda is totally focused on what the team talks about. It organizes team talk by topic. Sometimes the issues agenda will also include how much time will be allocated to each individual topic or issue. This is a high scope procedure and can be used for any task or any combination of tasks.

The issues agenda only tells the team what they will talk about, not how they will talk about it. The agenda may, however, provide clues to how the team will talk about each topic. For example, an agenda item “decide the location for prototype demonstration,” implies some type of decision making procedure, but does not state specifically how the decision will be made.

**Task Implications**

Anyone who has moved from one apartment to another, or one cubical at work to another, knows what a pain it is to get your stuff from one place to another. If you have enough stuff, you usually get some boxes of what you believe to be an appropriate size, or just use the ones you have on hand. Then you commence to putting the items in the box, shifting and adjusting things to get them to fit into the box. To close the lid you may have to push down on the items, or decide to take some out and put them into another box. Then you start the whole process over with the stuff that did not fit into the old box and all the other stuff you need to fit into the next box. Professional packers, because they have packed so many different things a number of times, have an eye for what will fit into what box and don’t try to pack too much into one box. They also know that certain items require special kinds of boxes. Fragile dishes may need a dish pack, a decorative item or lamp may require a tall, oblong box, as examples.

What does this have to do with an issues agenda? For a moment, think of team talk as a pile of “stuff” your team needs to move from one conceptual place to another. For example,
we need to transfer information from a few members to all members, or we need to move tasks from one phase to the next phase. An issues agenda is the box into which you put your “stuff.” The box is really a time box. It can be a regular sized box, one-hour agenda, or a large box, a multiple-hour agenda. The idea is to pick a box that will hold all your stuff, or select stuff that will fit into your box, or get multiple boxes (multiple meeting times). Don’t find you have to force the lid on the box, or run out of time, so that issues get squashed or have to be taken out. Don’t leave the lid off the box, have no time limit or allow anything to be added to the box, so issues keep piling up until they fall off the edges or the box (your agenda) collapses from the weight of so many issues. In other words, be like a professional packer and come to know what issues can fit together in the same box, without crowding, squashing or breaking.

**Team Implications**

People have five basic concerns when asked to participate in a face-to-face small group discussion: why, who, when, what and how. An issues agenda should, at a high level, address these five concerns. The agenda needs to convey why the team is meeting, who will be presenting, when the meeting will take place, what topics will be discussed, and some indication of how members will be asked to participate. For example, for the agenda topic, “decide on location of prototype demonstration,” team members will know they will be asked to participate in some kind of decision-making process. If, however, the agenda item was “announce the location of prototype demonstration,” then members will know they will receive information, and may or may not assume they can ask questions. How explicit the answers to the five questions need to be can depend on the team, how long they have been together or how regularly they meet; and the topics, whether they are routine or new and unique for the team. To be effective, an issues agenda which addresses these five basic concerns needs to be distributed to the team in advance. How far in advance will depend on the team and what the team will talk about.
Note

Because discussion topics may be disconnected, team talk can easily go off on a tangent. An issues agenda can anchor topics and provide a way to measure progress of small group discussion.

Outcome Implications

Some research suggests that teams function better by avoiding conflict and maintaining order when they use agendas that set times and order of discussion topics\(^5\). An issues agenda can create a perception of order and a sense of purpose for small group discussion. Team members may feel more satisfied with results of small group discussions when it is structured and agenda items are brought to satisfactory conclusion.

However, too much structure and rigid time constraints may be seen as bureaucratic or restrictive to spontaneous discussion. You may find that sometimes simultaneous discussion of issues facilitates discovery of integrative solutions or important information sharing. Therefore, you might not want to fill your box (agenda) to the top, but leave some space for “unstructured structure.” The outcome of team talk may change depending on what issues you pack together in the same (time) box.

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An issues agenda by its nature will require the team use a number of thinking processes, such as analyzing, creating, and evaluating. In the absence of discussion procedures to support these different subtasks, the team will tend to make proposals, discuss them, reject them and make other proposals, then revise previously discussed issues. This pattern of free discussion may lead to the perception that team talk goes on too long without a clear conclusion, even with an agenda.
Basic Guidelines

How you pack the box, or how you arrange issues, affects the function of the issues agenda. Anyone who goes grocery shopping knows you want to have heavy things on the bottom of the bag and lighter, fragile items on the top. Professional packers do the same, but sometimes will put a cushion on the bottom layer, followed by heavy items, lighter items and more cushion. Then when you open the bag or the box, you take out light things, followed by heavier things, and then know you have everything when you get to the cushion on the bottom. As it turns out, just as there are some rules of thumb for packing boxes, there are some general guidelines for organizing meeting issues. John Tropman, a professor at the University of Michigan and a writer of many books and scholarly journal articles on effective meetings, suggests unpacking a meeting the same as unpacking a well-packed box. Tropman suggests starting with something light, like announcements and easy decisions, then moving to heavier topics, and ending with “cushy,” non-stress items.

Table 2
Issues Agenda: Packaging Team Talk

\[\text{Top Layer – Light items} \\
\text{announcements} \\
\text{Next Layer – Heavy Items} \\
\text{most important issues or} \\
\text{Bottom Cushion – Signals the end}\]

\[\text{Open Immediately} \\
\text{Contains Issues Agenda} \\
\text{To:} \\
\text{The TEAM} \]

\[\text{Do Not Drop}\]

Agenda Example

Cobalt Project Update 4/29/2008 2:00 PM Conference Room A – Second Floor

Meeting called by: P. Burette, Project Manager
Type of meeting: Status Update
Facilitator: J. Archway, Team Lead
Note taker: S. Vue
Attendees: J. Archway, P. Burette, A Bristow, S. Stevens, D. Tung, S. Vue, N. Yoosefi

Please read: Project Bi-Weekly Executive Summary dated 4/24/09
Please bring: Resource Matrix, Updated timeline (version 4/20/08)

Agenda

<table>
<thead>
<tr>
<th>What</th>
<th>Time</th>
<th>Responsible</th>
<th>Specific Action</th>
<th>Clear Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Announcements</td>
<td>5 min</td>
<td>D. Tung</td>
<td>Presentation</td>
<td>Baseball Pool Prize Awarded</td>
</tr>
<tr>
<td>Resource Realloca-</td>
<td>15 min</td>
<td>A. Bristow</td>
<td>Rank Ordering (Multi-voting)</td>
<td>Resource assignments for May</td>
</tr>
<tr>
<td>Adjustments</td>
<td>20 min</td>
<td>P. Burette</td>
<td>Pro/Con Analysis using Risk Log</td>
<td>Updated task timeline</td>
</tr>
<tr>
<td>Demo Venue</td>
<td>10 min</td>
<td>J. Archway</td>
<td>Idea Generation (Structured Go-</td>
<td>List of ideas for Venue</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Around)</td>
<td></td>
</tr>
</tbody>
</table>
Problem-solving agendas provide a systematic approach to thinking and small group discussion for the purpose of determining a high-quality final solution. Problem-solving agendas can be compared to an outline or a table of contents of a book in that the sequence of discussion topics is identified at a high level. There are several different prescriptive problem-solving agendas which can be used depending on the problem and/or situation.

**Procedure Characteristics**

<table>
<thead>
<tr>
<th>Scope</th>
<th>Medium</th>
<th>Can be applied to many team tasks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Restrictiveness</td>
<td>Medium</td>
<td>Team behavior is somewhat controlled</td>
</tr>
<tr>
<td>Preciseness</td>
<td>Medium</td>
<td>Depends on problem</td>
</tr>
<tr>
<td>Team Control</td>
<td>High</td>
<td>The team can apply this procedure itself</td>
</tr>
<tr>
<td>Member Involvement</td>
<td>High</td>
<td>This procedure requires the cooperation of all members</td>
</tr>
</tbody>
</table>
Team Talk

The team is presented with a list of issues they need to talk about and the order they need to talk about them. Team discussion usually begins with problem identification and ends with selection and implementation of the team’s solution.

Although structuring procedures have no specific guidelines for how the team should talk about the issues presented on the problem-solving agenda, within each step of the agenda particular discussion strategies or techniques are implied.

Task Implications

Problem-solving agendas are appropriate for complex team tasks in that the sequence of interrelated stages is made explicit. Although normally applied to tasks of long duration, a problem-solving agenda can be completed in one team meeting. Also, the stages, also sometimes called functions, described in problem-solving agendas can vary in order or degree of importance depending on the task at hand, but they all must be addressed by the team.

To illustrate the flexibility of the stages of problem-solving, think about what it takes to bake a cake. The minimum things to be done, or functions to perform, are: 1) gather ingredients; 2) obtain baking utensils (e.g., bowl, mixing spoon, baking pan); 3) bake. It doesn’t matter if you get the utensils before or during the gathering of ingredients. Logically it would seem easier to complete the first two functions before you bake, but even that timing could vary. How much time and effort you put into each of the functions will vary with the task. If you are making a cake from a box mix, the requirement to gather ingredients will take far less time than making a cake from scratch. In problem solving the amount of time spent identifying the problem or generating alternatives, for example, will depend on the task and how much time is available to accomplish that task. Also the order that these requirements
are performed may not matter as much as that they are all fulfilled. Going back to the cake baking example, you may put your pan in the oven to bake, but you may need to take it out to add the egg and water to the cake mix. It probably would have been easier to add all necessary ingredients before starting to bake, but these are things you learn from experience. The team will also learn from their experiences the best way to structure their team's task.

**Note**

Problem-solving agendas may be complex and time consuming. Consider if the team's task warrants use of such a formal structuring procedure. See the Outcome Implications Section for some alternate discussion formats.

**Team Implications**

A problem-solving agenda can reduce uncertainty for the team by providing a "path to the goal" and establishing natural milestones at each stage along that path. Especially for tasks of long duration, these milestones can provide the team a sense of accomplishment that can foster team member satisfaction. Using a problem-solving agenda also acts as a reminder that problem-solving is an on-going process, where each stage is but one part of the whole.

You could think of problem-solving agendas as recipes that help you perform the functional requirements in a logical and efficient sequence, so you will not start to bake without having mixed in all the ingredients. However, just following the recipe will not guarantee a tasty cake. Cake baking takes practice and experience to find ways to alter the recipe to get the result you want. In small group decision making and problem solving, using a problem-solving agenda will not guarantee success. The team needs to understand how they are organizing their talk.
and find ways to alter that organization to get the desired result. In other words, you need to understand the basic ‘recipe’ and then find ways to alter that recipe to increase the probability of high-quality decisions and solutions.

**Outcome Implications**

A problem-solving agenda tends to prescribe the ideal method of problem solving, but may not always be practical. Problem solving agendas tend to be costly in time and resource effort. Processes and procedures within each stage can become cumbersome, routine and ineffective. Also, habitual use of a particular problem-solving agenda, such as systems design or standard agenda may lead the team to think it is the only acceptable means of approaching their problem.

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**Note**

Other discussion formats such as Single Question and Ideal Solution have been found to be just as effective as traditional problem solving agendas in some cases. These alternate discussion formats resemble problem solving agenda stages, but expedite the discussion process by posing specific key questions to the team. If time is a factor, or you just want to shake up the team’s structuring routine, consider these alternate discussion formats.

Two alternate formats are described on the next page.
Single Question Form
1. What is the single question, the answer to which is all the team needs to know to accomplish its purpose?
2. What sub-questions must be answered before we can answer the single question we have formulated?
3. Do we have sufficient information to answer confidently the sub-questions? (if yes, answer them, if no continue to next step)
4. What are the most reasonable answers to the sub-questions?
5. Assuming that our answers to the sub-questions are correct, what is the best solution to the problem?

Ideal Solution Form
1. Are we all agreed on the nature of the problem?
2. What would be the ideal solution from the point-of-view of all parties involved in the problem?
3. What conditions within the problem could be changed so that the ideal solution might be achieved?
4. Of the solutions available to us, which one best approximates the idea solution?
Basic Guidelines

Listed below are six different problem-solving agendas, or “recipes” that are commonly used. Which one you select depends on the type of problem your team has to address. You will notice that the agendas listed below have similar elements. At the end of the Basic Guidelines section you will find a matrix that compares all the problem-solving agendas listed to help you select the one that is right for your task, your team, and your expected outcome.

Dewey’s Reflective Thinking or Standard Agenda

Originally created to improve individual thinking, this problem-solving approach was adopted by early 19th century educators to improve the quality of small group discussion and effective group decision making.

Stage 1 – Awareness of Problem

- The recognition of a problem can come to light in a number of ways, such as:
  - Noticing of a gap between a desired state and the current state
  - A realization that two desired conditions cannot exist at the same time
- Phrase the problem as a single question to guide future team discussions

Stage 2 – Assessment of Problem

- Thoroughly explore the nature of the problem looking at it from a number of perspectives.
- Gather and share information about the problem, critically examining the quality and usefulness of the facts presented

Stage 3 – Generate Possible Solutions

- The more solutions generated, the higher the probability of getting the ‘best’ solution
- The goal in this stage is to generate alternatives, not to evaluate and analyzed them

Stage 4 – Assess Possible Solutions

- Agree upon the criteria for selecting a solution
- Differentiate criteria that are most important and criteria that is ideal, but not essential
Dewey’s Reflective Thinking or Standard Agenda (Continued)

Stage 5 – Test Solutions

- Test alternatives against the stated criteria to determine the best solution to the problem defined in Stage 1

**Note**

The order of the stages of Dewey’s Reflective Thinking can be switched with no significant impact on the team’s final solutions.

Here are some ways the Standard Agenda can be modified:

Criteria-ideation.

Criteria-ideation has the group discuss the nature of the problem and the criteria for a good solution before generating solutions.

Ideation-criteria.

Ideation-criteria format also has the team first discuss the nature of the problem, but then considers possible alternatives before talking about criteria for a good solution.

Problem-solution.

Problem-solution is a format to talk about the nature of the problem and generate solutions without setting any criteria for a good solution.
Problem Management Sequence

This approach aligns with Dewey’s Reflective Thinking stages and emphasizes the importance of planning how the team will think collectively. This structure is easily modified in that steps can be abbreviated or skipped altogether depending on the problem, the team, and the desired outcome.

Stage 1 – Describe the Problem

- Initiate clarification of the problem by posing a discussion question to the team
- Determine size, scope, urgency of problem

Stage 2 – Analyze the Problem

- Determine causes or conditions attributed to the problem
- Create solution criteria

Stage 3 – Propose Plans

- List possible alternatives

Stage 4 – Select ‘best’ plan

- Determine best alternative from Stage 3, using criteria from Stage 2
Creative Problem Solving

This approach contains elements of the other models, but adds explicit instructions that attend to the social dimension of team interaction, such as arousing interest and finding individual and team motivation. Also, incubation, or specifically scheduling time away from the problem, is seen as a key step in provoking a “creative shift.”

Stage 1 & 2 – Preparation

- Gathering Information
- Restate the problem
- Focus on arousing interest of team members
- Determine team and individual motivation for task

Stage 3 – Effort, Incubation & Insight

- Remove mental blocks by overcoming preconceived ideas
- Let the problem rest. Schedule time away from focus on the problem by turning team’s attention to other things
- Insight – generation and discovery of ideas

Stage 4 – Evaluation & Selection

- Use convergent thinking to narrow team’s choices
Planning Approach

Each discipline has its own planning methodology, and each one is slightly different from the others. The planning stages listed below represent generic stages that are common to most planning methods.

Stage 1 – Formulation
- Problem definition generated through a) reaction to a perceived problem; b) proactively offering project objectives; c) needs assessment; d) contractual agreement; e) request by authority

Stage 2 – Conceptualization
- Break down problem into manageable parts

Stage 3 – Detailing
- Generate viable options

Stage 4 – Evaluation
- Develop criteria and methods to rate alternatives

Stage 5 – Implementation
- Focus on social environment and methods to manage change
System Design
This approach is basically a linear approach where one stage feeds into the next stage. However, some teams may adopt an iterative or spiraling sequence, especially between Stages 2 and 3.

Stage 1 – Needs Assessment
- Research and data collection on human needs and the environment

Stage 2 – Requirements
- Determine new system requirements using a variety of communication strategies which might include: interviews, focus groups, review of system documentation and other artifacts
- Set criteria to judge final product

Stage 3 – Design
- Using requirements from Stage 2, several levels of designs are generated
  Communication strategies include evaluation of multiple high-level design alternatives using criteria generated in Stage 2, analysis of functionality of detail designs, agreement of final design

Stage 4 – Test
- Determine tactics to verify system meets requirements and design specifications (Stages 2 and 3).
  Communication strategies include consensus on system performance

Stage 5 – Release/Accept
- System turnover to client, customer or end user
  Communication strategies include information sharing, instructional communication, active listening and documentation.

Stage 6 – Maintain
- Solicit and receive feedback on system performance
  Communication strategies include surveys, both written and verbal
Strategic Planning

Strategic planning is a process used to set organizational goals and determine the priorities for allocating resources. The process is repeated periodically using feedback on the current plan's successes and failures.

Stage 1 – Diagnosis

- Revisit current mandates, mission and values
- Research external environment, including political and social trends, key resources, and competitive and collaborative forces
- Examine internal environment, including people, current strategies and performance
  Communication strategies include force field analysis, customer surveys, employee surveys

Stage 2 – Analysis

- Identify strategic issues
  Communication strategies include SWOT analysis (strength, weaknesses, opportunities and threats)

Stage 3 – Strategy Formulation

- Identify optimal actions using input from Stage 1 and Stage 2

Stage 4 – Implement

- Activate strategies generated in Stage 3
  Create communication plan that includes:
    Purpose – why communicate
    Audience – who needs to know
    Key Messages – what does each audience need to know
    Timeline – when do they need to know
    Delivery Vehicle – how will they get the message

Stage 5 – Reassess

- Provide for a feedback process, such as performance measures, that will feed into Stage 1 to re-initiate the process
Table 3
Comparison of Sequencing in Problem Solving Agendas

<table>
<thead>
<tr>
<th>Stage</th>
<th>Standard Agenda</th>
<th>Problem Management Sequence</th>
<th>Creative Problem Solving</th>
<th>Planning Approach</th>
<th>Systems Design</th>
<th>Strategic Planning</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Awareness of Problem</td>
<td>Describe the Problem</td>
<td>Preparation</td>
<td>Formulation</td>
<td>Needs Assessment</td>
<td>Diagnosis</td>
</tr>
<tr>
<td>2</td>
<td>Assessment of Problem</td>
<td>Analyze the Problem</td>
<td>Conceptualization</td>
<td>Requirements</td>
<td>Analysis</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Generate Solutions</td>
<td>Propose Plans</td>
<td>Insight</td>
<td>Detailing</td>
<td>Design</td>
<td>Strategy Formulation</td>
</tr>
<tr>
<td>4</td>
<td>Assess Solutions</td>
<td>Select Best Plan</td>
<td>Evaluation &amp; Selection</td>
<td>Evaluation</td>
<td>Test</td>
<td>Implement</td>
</tr>
<tr>
<td>5</td>
<td>Test Solutions</td>
<td></td>
<td></td>
<td>Implementation</td>
<td>Release/Accept</td>
<td>Reassess</td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Maintain</td>
<td></td>
</tr>
</tbody>
</table>


Robert's Rules for Committees are procedures used to insure order and fair participation during small group discussions. The rules of order for committees and small groups are less complex than Robert's Rules of Order, also known as parliamentary procedure, used by larger formal assemblies.

**Procedure Characteristics**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Level</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scope</td>
<td>High</td>
<td>Can be applied to any task</td>
</tr>
<tr>
<td>Restrictiveness</td>
<td>High</td>
<td>Team behavior is controlled</td>
</tr>
<tr>
<td>Preciseness</td>
<td>Medium</td>
<td>Rules are explicit, but flexible</td>
</tr>
<tr>
<td>Team Control</td>
<td>Medium</td>
<td>The team can apply this procedure itself, but requires facilitation skill and knowledge</td>
</tr>
<tr>
<td>Member Involvement</td>
<td>High</td>
<td>This procedure requires the cooperation of all members</td>
</tr>
</tbody>
</table>
Team Talk

Robert’s Rules for Committees is concerned with how discussion is conducted. The procedure can be applied to any team task.

Roberts Rules for Committees sets a tone for discussion that is more formal than running a meeting with only an agenda. The rules direct communication that is polite and respectful among team members. A formal facilitator role, the Chair, is designated. Although team members need not be recognized by the Chair to speak, s/he has the authority to referee the discussion. A formal record of the discussion is kept and distributed not only to those who participated in the discussion, but also other interested parties. Agreement is determined by majority vote.

Task Implications

This structure presumes a deliberative process. That is, team decisions will be made through argument, or the offering of facts, reasons and opinion. Structured turn-taking, imposed by this procedure affords the team an opportunity to detect and comment on errors in logic as well as errors of omission. However, since the final decision is determined majority vote, the members may cast a vote not on the merits of an argument, but on other factors such as loyalties or tradeoffs. Imposed structures of politeness and respectful communication do not rule out persuasive emotional appeals. Teams that use this method need to incorporate a rigorous risk analysis within deliberative process. Remember, the key to a high-quality decision is the team’s ability to analyze negative impacts of an alternative.
Note
Because this procedure uses majority rule, extreme decisions may be accepted as others' positions need not be incorporated into the final decision.

Team Implications
In his 1915 revised edition, United States Army General Henry Robert stated that the purpose of Robert's Rules of Order was to assist the group to accomplish, in the best manner possible, the work for which it is engaged. In order to do this, Robert, added, it is necessary to restrain the individual somewhat, as the right of an individual to do what he pleases is incompatible with the interest of the whole. Robert's Rules for Committees still provides a structure to help curb dominating speakers, but this structure also allows for freedom of interaction among members that is essential in small group discussion. You may find that team members that are usually quiet in free team discussion may contribute more freely when formal structure is added. However, you may also find that keeping a written and public record of the team's discussion may cause some members to guard their contributions to the discussion, so be open to "off the record" discussion.

Outcome Implications
Individuals do differ in their preferences for structure or free discussion, which can influence group dynamics. Also, if individual members suffer from high communication apprehension, then structure may foster or inhibit their contributions, depending on the methods used. However, both decision quality and member satisfaction have been found to improve in face-to-face groups where high amounts of

structure are imposed by the team's leader. Procedures also can empower the team by providing an explicit set of ground rules to direct actions during team discussions, providing there is a clear shared understanding of the rules.

**Note**

Complex procedures may divert the team's resources to over-checking the appropriate rule for a situation and engaging in discussion around the interpretation of formal procedures which can divert the team from accomplishing its intended task.

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Instructions

Roles

- A chairperson is named either by the organization (the team leader or team manager) or by the team.
- A note taker is assigned by the chairperson.

Responsibilities

- Meetings are called by the chairperson OR a meeting can be scheduled at the request of two team members.
- The team can decide the number of members that must be present in order to proceed with a meeting. However, normally a quorum is the majority of the team.
- The note taker prepares a summary report of the minutes after the meeting. This document is made available to the team members and others in the organization deemed to have an interest in the team's discussions.
- If a minority of the team disagrees with the decisions of the majority, they are encouraged to submit their written opinion with the summary report.

General Discussion Process

Unlike formal parliamentary procedure, Robert's Rules for Committees allows for informal discussion. There is no need to make points of order, table motions, or request personal privilege.

- Members do not need to request the floor to speak as long as they do not interrupt one another.
- There is no limit to the number of times a member may speak and it is not necessary for any one to rise and address the chair before speaking.
- The chairperson may take an active part in the discussion.

Agreement

- Decisions are usually arrived at by majority vote. In Robert's Rules for Committees, a majority is considered two-thirds of the team members.
- A vote can be taken as many times as the group likes.
- The chairperson can ask for an unofficial vote (straw vote) to determine if a consensus exists before a binding vote.

Organizing Team Talk
For Analysis
Organizing Team Talk
For Analysis

Achievement of a collective goal is the purpose of a team. Often, however, a team's goal can be characterized with one or more of these factors: large, complex, uncertain, ill-defined. Analysis, therefore, becomes an important function to come to mutual understanding of the nature of the goal, definition of essential tasks related to the team's common goal, and relationships among the tasks. Studies examining communication in decision-making groups have found a positive relationship between decision effectiveness and attempts to analyze a shared problem. Problem analysis involves taking a realistic look at the nature, extent and likely cause of the problem. Team talk that facilitates analysis includes statements and questions that help the team 1) identify the nature of the problem; 2) identify symptoms or signs of the problem; 3) determine the extent or seriousness of the problem; 4) identify possible causes of the problem.

An advantage of small group discussion is that a team is better able to detect errors of omission (what things got left out) through information sharing and to eliminate errors of commission (what things were wrong) by evaluation of contributions of fact and opinion. One way that information is shared and evaluated is by group argument. Arguments in team talk are manifested by repetitive communicative patterns of disagreement, reason giving, reason defending and resolution seeking. In regular conversation, argument is equated with a disagreement and has a negative connotation. When it functions as an analytical discussion tool, it is agreement-seeking.

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Argument
a reasoned communication in which one or more statements is used to support another statement or claim

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talk in which reasoning is tested and refined and alternative views compared and evaluated.

For team analytical functions, an argument consists of the combination of 1) a claim or conclusion, plus 2) reasons that allegedly support the claim. However, in order to be influential, a team member must not only demonstrate expertise by making a clear claim and supporting it with valid reasons, s/he must also effectively reflect the beliefs of the other team members. As an example, suppose the team is considering using supplier A or supplier B. A team member may state that supplier A is best because it is the least expensive and gives the team a list of price comparisons as evidence. The team member has made an argument for supplier A. If the belief of other team members is that low cost does not necessarily equal a better supply source, the team may not accept this argument. Other reasons such as high-quality products or customer service or more liberal return policy may better reflect the values and beliefs other team members related to selecting a supplier. Indeed, other team members may offer these reasons in support of the initial claim that supplier A is best or as reasons for a different claim.

In team talk, the acceptance of an argument (a claim and its reasons) can be predicted by the frequency of favorable and unfavorable comments. Tag-team arguing, where one member offers evidence followed by another member providing more evidence, creates a perception of unity and support for the proposal. Building agreement regarding a proposal in this manner can benefit the team by building mutual support for collective action. However, this pattern of communication can also result in groupthink. The desire for members to be agreeable in order to get along with one another can interfere with critical thinking.

Although groupthink does not always result in poor decisions, it has the potential to lead the team to poor decisions. To avoid bad habits of conflict avoidance and premature agreement,
teams can adopt procedures that intentionally introduce disagreement into small group discussion. For example, taking the role of Devil's Advocate a member will criticize the team's proposal. The verbal attack compels the other members to elaborate on their proposal. The idea of introducing conflict into team talk using a method such as Devil's Advocate is to continue the discussion so that any holes in the team's reasoning can be uncovered. Be watchful that criticism addresses proposals and not personalities. Although higher-quality decisions are associated with conflict regarding the team's task, too much disagreement will stall the group and may create a spiral of conflict.

**Collaborative Learning**
Team members mutually searching for understanding, solutions, or meanings, or creating a product.

Argument is only one way to view communication that facilitates team problem analysis. Collaborative learning was recognized by early communication educators as a natural result of small group decision making. Collaborative learning contends that high-quality decisions result from mutual, shared learning. Business problems usually have social and political components where the logical solution is not the best solution. Often there are many people who care about or have something at stake in how the problem is resolved so the best solution becomes the one that is accepted by all stakeholders. Collaborative learning allows the team to shift from a problem-solving mindset to a focus on designing a desirable and feasible change or finding ways to improve the situation. Collaborative learning discussion techniques include active learning exercises that can be facilitated with decision aids.

**Decision Aids**
Visual tools combined with discussion to facilitate team learning.

Decision aids organize team talk by focusing in on a particular aspect of a complex issue by using visual tools to facilitate analysis. Visual representations or diagrams created in real-time throughout the discussion process provide a memory prompt that summarizes accumulated relevant information. Building the visual together as a group also helps cement a common mental model of the problem or issue being discussed as words get translated into visual symbols to which common terms are applied. In other words, the collective thinking of the team is
made observable, explicit and communicated with the help of decision aids. Examples of decision aids are fishbone diagrams that assist the team with problem identification by looking at causes and effects, and a SWOT (strengths, weaknesses, opportunities, threats) matrix that helps the team identify internal and external environmental factors. By stimulating communication that encourages sharing of information, opinions and ideas, decision aids support collaborative learning.

Organizing team talk for analysis facilitates interrogation of proposals, evaluation and prioritizing of ideas. Group argument and collaborative learning techniques can aid these functions. The team analysis process is influenced by many interacting factors such as type of problem, degree of expertise available to the team, amount and type of specialized knowledge, the way the team perceives the issue at hand, time constraints, organizational and team goals, and preferences to approaching a problem, to name a few.
Delphi is useful whenever it is desirable to have pooled judgment. Named for the Oracles at Delphi, Greece, who would forecast future events, the technique was first used as a means of prediction. Teams use Delphi for a number of tasks including identifying goals and objectives, determining possible alternatives, establishing priorities, revealing group values and gathering information.

**Procedure Characteristics**

<table>
<thead>
<tr>
<th>Scope</th>
<th>Medium</th>
<th>Can be applied to many team tasks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Restrictiveness</td>
<td>High</td>
<td>Team behavior is controlled</td>
</tr>
<tr>
<td>Preciseness</td>
<td>High</td>
<td>Rules are explicit</td>
</tr>
<tr>
<td>Team Control</td>
<td>Low</td>
<td>Requires a knowledgeable facilitator</td>
</tr>
<tr>
<td>Member Involvement</td>
<td>High</td>
<td>This procedure requires the cooperation of all members</td>
</tr>
</tbody>
</table>
Team Talk

Delphi is used for the exploration of ideas or the production of suitable information for decision making. This technique can be used for a number of purposes including identifying goals and objectives, identifying possible alternatives, establishing priorities, revealing team values, gathering information and educating the team.

Delphi facilitates communication on a specific task. The method usually involves anonymity of responses, feedback of individual and/or collective views to the team as a whole, and the opportunity for any participating member to modify an earlier judgment. The method is usually conducted asynchronously using questionnaires distributed by mail or email.

A small monitor team designs a questionnaire to solicit knowledge, judgments or opinions anonymously from a number of experts. Contributions are shared with the whole team of experts by using the results from each questionnaire to construct the next questionnaire, which is sent out to the same set of experts.

Task Implications

Delphi is particularly useful in a political or emotional environment, or when the decisions affect strong factions with opposing preferences. The procedure works formally or informally, in large or small contexts, capitalizing on the benefits group decision-making while shielding the process from the over-dominant members, political lobbying, or "bandwagonism."

In general, the Delphi method is useful in answering one specific, single-dimension question. The technique is fairly
straightforward. It uses a series of questionnaires sent either by mail or computerized systems, to a pre-selected group of experts. These questionnaires are designed to elicit and develop individual responses to the questions posed and to enable the experts to refine their views as the team's work progresses in accordance with the assigned task.

**Note**

Delphi can be time-consuming and costly. If postal mail is used, it could take one to two months, or more, to complete the several rounds of questionnaires needed to produce a useful product.

**Team Implications**

Delphi is a communication device used to solicit individual expert opinions with the goal to form a collective judgment. It permits discussion among experts while avoiding certain social behaviors that can hinder face-to-face interaction.

The Delphi Method is based on a structured process for collecting and distilling knowledge from several experts through a series of questionnaires interspersed with controlled opinion feedback. Three separate roles are performed by individuals or subteams. The first subteam consists of the decision-makers, or the people who will receive and act on the final outcome of the Delphi process. These are the sponsors of the process and need to have high credibility in order to maintain the experts' interest and participation in the process. The second subteam administers the questionnaires, including designing the initial questions, summarizing responses and preparing follow-up questions. This subteam should be objective and careful not to distort the results, abuse the privacy of the experts or impose too restrictive a process on the participants. Finally, the third subteam is made up of experts, known as the respondents, identified as having the knowledge and expertise to contribute to the process. Selection of experts
needs careful consideration as the quality of expertise determines the quality of the outcome of the study.

**Outcome Implications**

Delphi is a way to have an informed team of experts present all the options and supporting evidence for consideration. It is not a method for generating consensus.

It is very difficult to evaluate the accuracy and reliability of a judgment method such as Delphi because the technique is based on determining the opinion of several experts and the findings therefore become person and situation specific.
Instructions

Roles

Sponsor. The person who initiates a Delphi process needs to have credibility with respondents. This person is responsible for identifying the reasons for the study and needs to demonstrate knowledge and sensitivity to the topic of the study in the initial round. The sponsor also needs to make clear the reasons why respondents have been selected to participate in the process.

Monitor Team. The monitor team issues the questionnaires, keeps track of responses, and compiles results. It is recommended that several individuals be used to perform these functions, not a single individual. The monitor team must be objective and careful not to distort the results, abuse the privacy of the respondents or impose too restrictive a process on the participants.

Respondents. The people responding to the questions should possess the knowledge or experience necessary to answer the questions in the Delphi process. Respondents should also be stakeholders in the study.

Responsibilities

The Monitor Team will administer the questionnaires that facilitate the discussion process. The administration of the questionnaire needs to include the following ten steps:

<table>
<thead>
<tr>
<th>Action Step</th>
<th>Considerations</th>
</tr>
</thead>
</table>
| 1. Decide to administer questionnaire | How important are the following factors?  
Assure anonymity of respondents  
Make it easy to respond  
Enable participation from people in various remote locations  
Enable participation from large group of people |
| 2. Select respondent group    | What is the population you want to study?  
How large?  
What size is the sample? |
<table>
<thead>
<tr>
<th>Action Step</th>
<th>Considerations</th>
</tr>
</thead>
</table>
| 3. Design questionnaire                        | Who will be listed as sponsor?  
What will be included in the cover letter?  
What appeal will be used (e.g., emotional, logical, authority)?  
How personalized does the letter need to be?  
Is an incentive offered?  
Will respondents receive final results?  
Is demographic information needed?  
If yes, what kind of data is needed?  
How detailed will be the instructions?  
What period of time is given to complete the questionnaire?  
What is the questionnaire like?  
--Type of questions/answer options |
| 4. Give advance notice to respondents (optional) | How much advance notice will respondents be given about their participation in this process?  |
| 5. Pilot test questionnaire (optional)          | Will the questionnaire have a pilot test?  
If yes, who should participate in the pilot? |
| 6. Produce questionnaire                       | What is the appearance?  
How is it to be delivered?  
How is it to be returned? |
| 7. Distribute questionnaire                     | Where is questionnaire sent (e.g., business, home)? |
| 8. Send Reminder                                | At what point in the process is the reminder to be sent?  
What format is the reminder (e.g., written, phone)? |
| 9. Receive completed questionnaires             | How are questionnaires tracked? |
| 10. Analyze completed questionnaires            | How are results tabulated?  
How is data analyzed?  
How are results interpreted? |
General Discussion Process

It is necessary to complete all six communication phases:

Phase 1  Formulate the issues
Establish what issues should really be under consideration and how these issues should be stated.
To reduce the number of rounds, the monitor team can complete this phase. This can be done by reviewing pertinent literature, interviewing informed persons or using another technique such as nominal group technique or ideawriting.

Phase 2  Determine viable options
Given the issues, ascertain what policy options are available.

Phase 3  Determine initial positions on the issues
Discard unimportant issues and issues everyone already agrees upon. Highlight the issues where there is most disagreement among the respondents.

Phase 4  Explore and obtain the reasons for disagreements
Find out what underlying assumptions, view or facts are being used by the individuals to support their respective positions.

Phase 5  Evaluate the underlying reasons
Determine how the group views the separate arguments used to defend various positions, and how do they compare to one another on a relative basis?

Phase 6  Reevaluate the options
Reevaluation is based upon the view of the underlying evidence and the assessment of its relevance to each position taken.
Devil's Advocate involves at least one individual presenting criticism of the team's selected proposal without proposing an alternative. The role of devil's advocate may be an authentic dissenter, but many times this is a role assigned on taken on by a team member. The idea of devil's advocacy is that continued discussion critiquing a proposal will delay closure and allow for further consideration of alternatives.

### Procedure Characteristics

<table>
<thead>
<tr>
<th>Scope</th>
<th>Low</th>
<th>Applies to a specific subtask — evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Restrictiveness</td>
<td>Low</td>
<td>Imposes very little control on the team's behavior</td>
</tr>
<tr>
<td>Preciseness</td>
<td>Low</td>
<td>Guidelines are very general</td>
</tr>
<tr>
<td>Team Control</td>
<td>High</td>
<td>The team can apply this procedure itself; no facilitator is required</td>
</tr>
<tr>
<td>Member Involvement</td>
<td>Low</td>
<td>This procedure requires the cooperation of only one member to be a devil's advocate</td>
</tr>
</tbody>
</table>
Team Talk

The person who is the devil's advocate adopts a critical position toward the team's proposition, believing the recommendation should be subjected to considerable scrutiny. The devil's advocate becomes a critic by digging for inconsistencies and team talk centers around problem assumptions and crucial issues.

This procedure introduces structured conflict into team talk. The objective is bring up arguments about why and how the team's proposal is flawed. The Devil's Advocate concentrates on what is wrong and not on what the team should ideally do. In other words, the Devil's Advocate does not offer any alternate solutions. The other team members attempt to defend the majority position using evidence, logic and reasoning.

Task Implications

Because the Devil's Advocate process seeks conflict, it provides a safeguard against premature convergence. The idea is that continued interrogation of a proposal will delay closure and allow for further consideration of alternatives.

Team Implications

The role of devil's advocate may be assigned and views of the dissenter may or may not be consistent with her/his own. The devil's advocate can also be an authentic dissenter. Although both role play and authentic dissenters provide the benefit of contributing to a high-quality team decision or solution, the use of an authentic dissenter has been found to stimulate more discussion excitement and a greater quantity and quality of alternative solutions. One explanation of the effect of an authentic dissenter is that the team may argue differently with someone who is role-playing, as the team has no expectation of persuading the role-player to change her/his position.

Outcome Implications

Introducing conflict into a team can have negative consequences. The dissenter may be seen as an obstacle to agreement and therefore the team may develop a dislike toward the person. Lowered morale and rejection of the dissenter can be avoided by keeping team talk focused on the issue. Discussion that stays on reexamination of positions and consideration of more alternatives can lead to better decision making. This type of constructive conflict can even increase team climate by promoting trust through open exchange of ideas.

Note

Forcing the team to reexamine assumptions after they have already generated a solution may be disruptive and emotionally unpleasant. The dissenter can be seen as obstructing the team’s progress and “wasting time”. Be watchful of team talk that attacks the person acting as devil’s advocate personally (e.g., “you don’t know what you are talking about”) instead of the task (e.g., “the probability of that situation occurring is extremely low”).

Note

Conflict-inducing methods may stimulate more discussion in support of the original proposal instead of generating discussion on other possible positions. If criticism does not provide alternative assumptions or plans, it can be destructive.
Basic Guidelines

Roles

**Devil’s Advocate.** As the designated critic, this person consciously opposes or criticizes accepted stances. S/he suggests disadvantages to alternatives, offers different analyses of problems, questions the value of evidence, and generally helps keep the group honest.

- **Responsibilities**
  - Conduct: Impose stringent standards
  - Behaviors: Ask embarrassing questions
  - Motives: Challenge will improve the decision/solution

**Team Members.** The team develops what they perceive as a quality decision/solution. All members are prepared to respond to questions posed by the Devil’s Advocate, and see the merit in hard questioning. The team realizes there is always something that is overlooked, and is open to improvement and changes to their proposal.

- **Responsibilities**
  - Conduct: Provide a defensible decision/solution
  - Behaviors: Respond to interrogation; keep an open mind
  - Motives: Challenge will improve the decision/solution

Alternate Approach: Dialectical Inquiry

Dialectical Inquiry is similar to Devil’s Advocate in that it introduces structured conflict by criticizing the team’s proposal. Instead of just offering criticism, however, Dialectical Inquiry makes a counterproposal. This approach begins by identifying assumptions underlying the proposal under consideration. One or more team members create a counterproposal, which is still feasible, politically viable and credible, but based on different assumptions from the original proposal. The mode of talk is debate where both proposals are presented to other team members. The team may choose one of these proposals or formulate a new one based on a different look at the same issue.

This approach has been found to have the same benefits of Devil’s Advocacy in that assumptions are challenged and better decisions/solutions are generated. Using Dialectical Inquiry, however, may limit the team to considering just the proposal and the counterproposal, instead of generating alternatives different from either.
Force Field Analysis

Force Field Analysis is a method used to identify the scope of a problem and strategies for solving it. Force Field Analysis is based on the idea that an organization attempts to manage forces that can impact it negatively and those that impact it positively. By identifying positive and negative forces, the team can determine the best actions for solving a problem.

**Procedure Characteristics**

<table>
<thead>
<tr>
<th>Scope</th>
<th>Medium</th>
<th>Can be applied to many problem-solving situations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Restrictiveness</td>
<td>Medium</td>
<td>Team behavior is somewhat controlled</td>
</tr>
<tr>
<td>Preciseness</td>
<td>High</td>
<td>Has explicit rules</td>
</tr>
<tr>
<td>Team Control</td>
<td>Medium</td>
<td>A trained facilitator is recommended, however, the team can apply this procedure itself</td>
</tr>
<tr>
<td>Member Involvement</td>
<td>High</td>
<td>This procedure requires the cooperation of all members</td>
</tr>
</tbody>
</table>
### Team Talk

This procedure involves identification of a problem, the factors or forces contributing to making it a problem, and steps for generating solutions. The product of this procedure will be a detailed action plan outlining when and how the problem will be addressed.

To help the team coordinate thinking, positive and negative aspects of the proposal under consideration are visually displayed side-by-side. The positive and negative aspects are called “forces” and the team discusses tensions among the forces. Team talk includes cause and effect reasoning as well as analogies, examples and sign reasoning.

### Task Implications

Force Field Analysis is a way to identify strategies for solving a problem and includes steps for problem identification, analysis, action plan, and evaluation. It is important to select one problem to work through the process, although the team may identify several. It is not necessary to have the “perfect” problem statement, but it needs to be sufficiently clear so that all members have a shared meaning of the problem. The team collectively comes up with forces that resist solving the problem and forces that help solve the problem. When identifying forces, the team should avoid arguing about which ones are more important. It is better to hold judgment until the prioritization step. Next the team determines how resisting forces can be reduced and/or how helping forces can be strengthened. These ideas are then prioritized and used to create an action plan.

### Team Implications

Force Field Analysis requires the team to ask and answer a variety of questions. The team can easily get lost in arguments that take them off task. Different types of questions call for
responses that reflect a different kinds of thinking, feeling or believing. For example:

- Questions of fact
  - call for determining the truth of a claim (analysis)
- Questions of conjecture
  - project what might happen (analysis, evaluation)
- Questions of value
  - consider what is right or better, or what is wrong or bad (feeling, believing)

The team may easily get lost in arguments, fail to listen to one another, or discount each other’s contributions. A skilled facilitator may need to insert orienting and supportive comments to keep the small group discussion productive.

**Outcome Implications**

The outcome of the process is a detail action plan with evaluation criteria. The tangible product of the process provides the team a sense of accomplishment. Also, the collaborative nature of the procedure promotes teamwork and cohesiveness that can continue into future tasks.
Basic Guidelines

Force Field Analysis is based on the idea that an organization maintains itself at a certain level, a quasi-stationary state. This level is maintained by a number of factors, or forces. As long as these forces remain relatively unchanged, the organizational level will remain the same. Two important conditions to ask about the organizational level are:

1) what forces maintain our current level
2) what conditions are necessary to change the current level to a different one?

The Process
1. Define Problem
   a) Describe the current state
   b) Describe the desired state
   c) Write a clear problem statement

2. Identify Forces
   a) List perceived driving forces that help solve the problem
   b) List restraining forces that keep the problem a problem

3. Identify Critical Forces
   a) Identify major driving forces
   b) Identify major restraining forces
   Since not all forces will be of equal significance, it is important to identify relative strengths. Forces will be related to one another.

4. Create Action Plan
   List specifics (who, what, when, how, where) for each step

5. Review Promising Action Steps
   The purpose of this step is to identify the most promising actions that have been generated. This allows the team to concentrate on aspects of the problem that have the greatest chance of being corrected, relating each to its chance of meeting the valuation criteria.
6. Identify Resources
   Identify resources needed to promote each action

7. Evaluate
   List observable and measurable criteria of success

8. Implement
   Take actions listed on action plan
Instructions

Step 1 - Define the Problem
The first step in force-field analysis is to define the problem as clearly and accurately as possible by describing the present conditions and the desired conditions. There are many ways this might be done. Two useful techniques are illustrated in the box below.

Method One
Participants imagine they are in a hot-air balloon looking down on their organization. They describe what they see—both the positive and negative aspects. The next step is for participants to image looking down on the same scene a year later. They proceed to develop the desired state from this picture.

Method Two
Ask participants to image how they would like things to be. After reflection/discussion, ask participants “assume that by magic the problem is solved. What is happening differently? What are people now doing or thinking?” The leader gives the participants time to write down their responses and lets the team share them. For added impact, the participant may be asked to report the desired conditions as if they have already appeared. For example, instead of saying, “I wrote that I would be more effective,” the participant says, “I am more effective.” After a discussion of the desired conditions, team members look at the current conditions.

The team’s responses are recorded on chart paper:
Example – Topic: Job Accountability

<table>
<thead>
<tr>
<th>Present Conditions</th>
<th>Desired Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work is unequally distributed</td>
<td>Work is distributed fairly among employees in my work team</td>
</tr>
<tr>
<td>Good workers’ morale is affected by poor performers</td>
<td>Employees are recognized for their work performance</td>
</tr>
<tr>
<td>Disciplinary action process is time-consuming and cumbersome</td>
<td>The disciplinary action process is streamlined and fair</td>
</tr>
</tbody>
</table>
Step 2 - Identify Forces

This step involves specifying the forces that act on the problem. Driving forces are those that act to bring about the desired condition; restraining forces act to prevent the desired conditions.

The team might split into subgroups and develop lists of restraining and driving forces which impact the present condition or the total team may work together. As a force is identified, the participants should explain why they see it as driving or restraining. If there is disagreement, they should discuss it until all opinions are expressed and a consensus is reached.

The final result of this step should be a list of the perceived driving forces which help solve the problem, and the restraining forces which keep the problem a problem.

A force field analysis of the problem might look like the chart below.

<table>
<thead>
<tr>
<th>Present Condition</th>
<th>Managers tolerate habitually poor performing employees</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Driving Forces</strong></td>
<td>Forces to help solve the problem</td>
</tr>
<tr>
<td>New hire opportunities</td>
<td>Ineffective managers</td>
</tr>
<tr>
<td>Workers nearing retirement</td>
<td>Disciplined process is time consuming</td>
</tr>
<tr>
<td>Management training on motivation and feedback skills</td>
<td>Inefficient use of resources</td>
</tr>
<tr>
<td></td>
<td>Unmotivated workers</td>
</tr>
</tbody>
</table>
Step 3 - Identify Critical Forces
This step further expands the previous step. Since not all of the forces will be of equal significance, it is important to identify their relative strengths. By doing so, the team can identify the major forces on which to concentrate. The idea here is to relate forces to one another. Which restraining forces will exist no matter what you do? Which driving forces can be readily utilized?

There are several tools that can be used to help relate or weight forces against one another. One way is visual. Ask participants to emphasize forces they see a major with heavy dark lines to make those forces visually stand out. A visual illustration helps the team members analyze the forces surrounding the problem, such as in the example below.

Present Condition
Managers tolerate habitually poor performing employees

<table>
<thead>
<tr>
<th>Driving Forces</th>
<th>Restraining Forces</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forces to help solve the problem</td>
<td>Forces which cause the problem</td>
</tr>
<tr>
<td>New hire opportunities</td>
<td>Ineffective managers</td>
</tr>
<tr>
<td>Workers nearing retirement</td>
<td>Discipline process is time consuming</td>
</tr>
<tr>
<td>Management training on motivation and feedback skills</td>
<td>Inefficient use of resources</td>
</tr>
<tr>
<td></td>
<td>Unmotivated workers</td>
</tr>
</tbody>
</table>

Another process is simply to have the participant rank order the forces under each heading. Once the rank order is accomplished, the participants will be asked to give a weight to each force. For example, the team may be asked to distribute 100 pound of imaginary energy. By using this weighting process to rank the forces, major forces are readily identified. In this example, the strongest driving force is perceived to be new hire opportunities.
**Driving Forces**
Forces to help solve the problem

- New hire opportunities 50 lb
- Workers nearing retirement 10 lb
- Management training on motivation and feedback skills 40 lb

**Restraining Forces**
Forces which cause the problem

- 15 lb Ineffective managers
- 50 lb Discipline process is time consuming
- 25 lb Inefficient use of resources
- 10 lb Unmotivated workers

Sometimes extra effort must be expended to reach agreement between individuals who have major differences in the evaluation of forces. The process of reaching agreement is an important one because it aids the team in analyzing and evaluating the real problems.

**Step 4 - Action Steps**
The final result of this step is an identification of the major forces that impact the problem. For each of the major forces identified, the participants now develop a specific strategy for changing the intensity of the forces in order to reduce the problem. There are three major options:

- to reduce resisting forces
- to increase driving forces
- to do a combination of both

One of the disadvantages of increasing the driving forces is that this may simply increase the restraining forces. The result is an increase in tension without any movement toward the desired state. If the choice is toward increasing driving forces, the leader needs to ask what will happen to the resisting forces—"if we do this what will be the probable response?" In this example,
if workers are encouraged to think about retirement, that may increase the unmotivated worker restraining force.

In order to develop a change of strategy, the team or subgroups should inspect each force and generate ideas for promoting driving forces and reducing resisting forces. The descriptions of actions should be as specific as possible; that is, each step should establish who should do what, when, how, and where. For example, in the case of managers tolerating poor performing employees, the subgroup working with driving force, new hire opportunities, may suggest adding additional candidate screening questions.

### Action Step

<table>
<thead>
<tr>
<th>Who</th>
<th>What</th>
<th>When</th>
<th>How</th>
<th>Where</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jo</td>
<td>Arrange meeting with HR</td>
<td>Within 2 weeks</td>
<td>Call HR</td>
<td>HR Office</td>
</tr>
</tbody>
</table>

Jo, Sam, Elliot meet with C. Jones in HR to discuss current interview process and determine official criteria for screening applicants. Determine how criteria can be changed/added to the screening or interview process.

### Step 5 - Review Promising Action Steps

Not all ideas generated at this stage will be feasible. Therefore it will be necessary for the team the review the actions steps. The purpose of this step is to identify the most promising action steps that have been generated. Again, this allows the team to concentrate on those aspects of the problem that have the greatest chance of being corrected, relating each to its chance of meeting the evaluation criteria.

This is a very important step and it may require an entire session to accomplish. The facilitator might use another process to establish consensus on which action steps or change strategy should be implemented (nominal team process is an excellent technique for this). However, a formal process is not always necessary at this stage. A good open discussion concerning strategy, resources, evaluation plan and goals may be all that is needed for the team to agree on what action to take.
Step 6 - Resources
The team needs to consider resources available to promote each action. A useful way to organize these ideas is with a chart such as the one below.

Identify resources needed to promote each action

<table>
<thead>
<tr>
<th>Action Step</th>
<th>People Who Can Help</th>
<th>Material Resources</th>
<th>Time</th>
</tr>
</thead>
</table>

The team may use several mechanisms to generate ideas in this stage. Participants might be assigned to work on the listing of resources, or they may work on a particular action step in which they are interested. Perhaps the whole team will work together on all the steps.

Step 7 - Evaluation
The evaluation step is an attempt to determine how successful the action step will be. Next to each action step, the participants are to list observable and measurable criteria of success. These criteria will help the action takers know when a step has been completed successfully.

List observable and measurable criteria of success

Step - Implementation

<table>
<thead>
<tr>
<th>Action Step</th>
<th>People Who Can Help</th>
<th>Material Resources</th>
<th>Time</th>
<th>Criteria for Success</th>
</tr>
</thead>
</table>

Implementation is exactly that—taking action. The plans have been made to address the problem; now it is simply a matter of acting on them.
Multiattribute Decision Analysis (MDA) is used for problems that have a finite and generally small set of separate options or alternatives. Based on team members' expertise, probabilities are assigned to each of the alternatives and calculations are made to reveal potentially better alternatives.

**Procedure Characteristics**

<table>
<thead>
<tr>
<th>Scope</th>
<th>Medium</th>
<th>Can be applied to many problem-solving situations</th>
<th>Team behavior is somewhat controlled</th>
</tr>
</thead>
<tbody>
<tr>
<td>Restrictiveness</td>
<td>Medium</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preciseness</td>
<td>High</td>
<td>Has explicit rules</td>
<td></td>
</tr>
<tr>
<td>Team Control</td>
<td>Low</td>
<td>A trained facilitator is required</td>
<td></td>
</tr>
<tr>
<td>Member Involvement</td>
<td>High</td>
<td>This procedure requires the cooperation of all members</td>
<td></td>
</tr>
</tbody>
</table>
**Team Talk**

The team selects criteria important to their decision. It then judges the utility, or ranking, of each alternative by analyzing the criteria they have identified.

Although this method encourages logical thinking related to decision making, expert judgment and other subjective factors are used to assign quantitative values. Team talk will be argumentative, persuasive and perhaps dogmatic. Subjective methods are many times augmented with technology that applies complex calculations to assist the team in “what-if” scenarios.

**Task Implications**

All decision-making tools and methods are created to support decision makers in systematizing and organizing facts, data and knowledge that influence the decision. MDA facilitates the calculation of multiple, and perhaps conflicting, criteria. The visual tools help structure the problem to promote shared understanding.

In multi-attribute decision making, the decision problem is decomposed into a number of smaller, less complex subproblems. The team works on one part, then another, and another. Eventually, all the subparts are combined and considered together. The visual tool associated with this method is important to relate all the subproblem decisions back to the original problem.

Multiattribute decision making can be done manually. However, because of the complexity of calculations, and the advantages of doing several iterations using different decision probabilities, expert system technology is often used when a high-quality decision is needed.
Team Implications

A trained facilitator is needed to execute this procedure, which may impact the team's attitude toward the task. Also, usually team members are selected to participate in MDA because of their expertise in the topic under consideration. The outcome of this procedure depends heavily on experts' opinions and their knowledge and experience with similar situations. Opinions may clash and the facilitator is used not only to execute the process, but also to address differences of opinion.

Outcome Implications

The choice between alternatives usually depends on several criteria, such as cost, effectiveness measures and user satisfaction. Each alternative under consideration may have several unique features with inherent value. A comparison of these values helps to identify the best overall option based on consideration of all criteria.

This is a highly complex and time intensive method. It is important to weigh the costs against outcome expectations when considering this procedure. If the decision has great impact, such as high dollar investment, long-term commitments, or safety concerns, the outcome of this procedure provides rich information. However, for less important decision, a simpler, faster procedure should be considered.

Note

When analyzing separate stages of this decision making process, the first one, design of the criteria tree, appears the most critical. It directly influences the relevance and success of the final decision. Selecting relevant criteria and structuring them into tree is a difficult creative task which requires a deep understanding of the problem at hand. The team needs to understand that is more art than science.
Basic Guidelines

MDA is a procedure to discuss and decide among a limited number of alternatives. These alternatives are evaluated based on probabilities that the desired outcome will happen. As the following steps are performed, a facilitator creates a decision tree to represent alternatives and outcomes associated with the problem under consideration. A sample decision tree is on the next page.

1. Generate alternatives
For example, if the decision is the selection of a new accounting system, the alternatives might be to develop our own system ("make" alternative) or to purchase an off-the-shelf system ("buy" option) or to "do nothing."

2. Determine possible outcomes.
Using the above example, the possible outcomes of each alternative may be 1) increased efficiency; 2) increased training costs; 3) better information. It is possible that individual alternatives may have different and/or unique outcomes. The importance of these outcomes can be included in the decision-making process.

3. Assign probabilities to each of the possible outcomes
Probabilities are assigned to each outcome based on team members' expertise, knowledge, data, etc. For example, the outcome that training costs will increase might be assigned a probability of 50% for the "make" alternative, 70% for the "buy" alternative, and 20% for the "do nothing" alternative.

4. Calculate the expected value of the alternatives by calculating the outcome times probability for each item. Based on the data, the alternatives can be compared for their relative values.

5. Repeat steps 2 through 4 using different outcome scenarios to generate different values for alternative outcomes.
Table 4
Sample Decision tree

```
Problem
Statement or
Goal

Alternative 1

Outcome

<table>
<thead>
<tr>
<th>Probability</th>
<th>Utility (value)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Alternative 2

Outcome

<table>
<thead>
<tr>
<th>Probability</th>
<th>Utility (value)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Alternative 3

Outcome

<table>
<thead>
<tr>
<th>Probability</th>
<th>Utility (value)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
```


ANALYSIS

<table>
<thead>
<tr>
<th>Team Uses for This Procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coordinate Thinking</td>
</tr>
<tr>
<td>Set Objective Ground Rules</td>
</tr>
<tr>
<td>Avoid Bad Habits</td>
</tr>
<tr>
<td>Capitalize on Strengths</td>
</tr>
<tr>
<td>Balance Participation</td>
</tr>
<tr>
<td>Surface Conflict and Manage Conflict</td>
</tr>
<tr>
<td>Promote Sense of Progress</td>
</tr>
<tr>
<td>Encourage Team Self Reflection</td>
</tr>
<tr>
<td>Empower the Team</td>
</tr>
</tbody>
</table>

**T-Chart**

T-Charts allow a team to identify, explore and graphically display opposing elements of an issue.

Procedure Characteristics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Level</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scope</td>
<td>High</td>
<td>Can be applied to any team task</td>
</tr>
<tr>
<td>Restrictiveness</td>
<td>Low</td>
<td>Imposes little control on the team’s behavior</td>
</tr>
<tr>
<td>Preciseness</td>
<td>Low</td>
<td>Guidelines are very general</td>
</tr>
<tr>
<td>Team Control</td>
<td>High</td>
<td>The team can apply this procedure itself</td>
</tr>
<tr>
<td>Member Involvement</td>
<td>High</td>
<td>This procedure requires the cooperation of all members</td>
</tr>
</tbody>
</table>

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Team Talk

A T-Chart allows the team to identify, explore and visually display contrasting elements related to a problem, situation, or proposal. Examples of contrasting elements are positive/negative, advantages/disadvantages, or plus/delta (change).

Generally T-Charts are created from free discussion. Talk is not restricted to just listing ideas, as in an idea-generating procedures, as elaboration, explanation and critique is encouraged. Research shows that this type of discussion, when it includes elaboration, clarifying statements, questions, and challenging of assumptions, promotes critical thinking of all team members.

Use of the T-Chart helps to curb the recycling and rehashing of ideas that tends to happen in free discussion by keeping ideas that have been previously discussed visually displayed.

Task Implications

The T-Chart is a very informal method of capturing information from the team. It is most useful to gather and document initial impressions and feelings, although it can be used to obtain expert opinion and judgments.

As items are listed on the left and right sides of the “T,” the team can see if more “positives” or “negatives” are being offered. As the discussion progresses, a picture of the issue under discussion becomes apparent. The team can use the completed chart to do further analysis and investigation to correct negatives or strengthen positives.

The visual analysis may prompt members to begin offering additions to the T-Chart just to balance the two sides, or to add more to one side or another. The team needs to be aware of any potential bias they may have. If this appears to be a problem, use one list, indicating a plus (+) or minus (-) by the comment. The data collected from the team discussion can be put into a T-Chart after the discussion has ended.

**Team Implications**

The T-Chart can help the team prior to taking action, by identifying advantages and disadvantages. Proactive use of the T-Chart analysis might be input into risk analysis or resource requirements.

In addition this method is helpful for team reflection on actions they have already taken. A good use of this type of team talk is at the end of projects as a way to collect lessons learned. The T-Chart analysis in this case can be used as input to the organization’s process improvement efforts.

**Outcome Implications**

Although the quality of the analysis may not be good enough to for final decision-making, the T-Chart can be a very quick and efficient way to clarify a problem, situation or proposal. Therefore, the team should be clear as to the purpose of the procedure, which is usually to provide input into a more rigorous analytical process.

Team talk facilitated by T-Charts can also contribute to the
ANALYSIS

T-Chart

team climate by providing an informal opportunity to express enthusiasm or concerns about the topic under discussion. Lessons learned T-Charts also contribute to cohesion by reinforcing team accomplishments, challenges and opportunities for improvement.

Note

When discussing not only negative, but positive aspects, be watchful of communication that can work against the development of a cooperative attitude among team members. These communicative behaviors include personal attacks and discounting, which is dismissing others’ contribution as untrue or trivial.
Basic Guidelines

The T-Chart is used in conjunction with free discussion. Using free discussion, or team talk not guided by specific discussion rules, the team will tend to make proposals, discuss them, reject them and make other proposals. To organize and channel this free discussion, visual representations or diagrams created dynamically throughout the discussion process provide a memory prompt that summarizes accumulated relevant information. The T-Chart is used to reduce cognitive load and to help members focus on team-generated information rather than rely on their individual memories. Building the T-Chart as a team also helps cement a common mental model of the problem or issue being discussed as words get translated into visual symbols.

Roles

Discussion Leader—Poses the question and controls turn-taking as necessary.

Scribe—Writes comments from the team on T-Chart. The scribe needs to write the comments exactly as offered by the team member. S/he can ask the team member to summarize, if the comment is lengthy.

The Process

1. A giant letter “T” is drawn on chart paper or a whiteboard.
2. The topic, issue or problem is written above the “T” crossbar.
3. The discussion leader starts the discussion with an open-ended question.
4. Team members verbally contribute items to be listed on one side or the other.
   Usually member contributions are spontaneous. If contributions are not forthcoming, the discussion leader may try a turn-taking method, such as round robin method (asking each person, in turn, to contribute something to the T-Chart or pass) to get the conversation started.
5. The scribe lists member contributions on the T-Chart. Positives/advantages are listed on the left side; negatives/disadvantages are listed on the right side of the center line.
   As items are written on left- and right-hand sides of the paper or whiteboard, a team memory is created by placing items into categories (good/bad) and creating a visual of the balance of good versus bad.

---

**T-Chart Example**
Stimulus Question: What are lessons learned from the Cobalt Project?

<table>
<thead>
<tr>
<th><strong>Cobalt Project</strong></th>
<th><strong>DELTA</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>+ <strong>PLUS</strong></td>
<td>—</td>
</tr>
<tr>
<td>Project delivered on time</td>
<td>Intra-team task turnover delays</td>
</tr>
<tr>
<td>Stakeholder Progress Reports</td>
<td>Miscommunications with upper management</td>
</tr>
<tr>
<td>Team mini-meetings</td>
<td></td>
</tr>
</tbody>
</table>

*ANALYSIS T-CHART*
Organizing Team Talk
For Creativity
Organizing Team Talk
For Creativity

Organizing creativity may seem like an oxymoron. However, the concept of organization and free-flowing creativity are not mutually exclusive. Just as analytical discussion procedures help teams to think critically, a variety of discussion strategies and techniques to help teams think creatively. A definition of creativity is "unexpectedly appropriate combinations or associations of ideas." Complementary to creativity is innovation, which is the incorporation of creative ideas into a finished article. For example, the hook and loop fastener was an idea that resulted from observing how cockleburs attached themselves to a dog's fur and applying the same principle to bind two materials together. George de Mestral's creative idea, commonly known as Velcro, has been incorporated into a number of innovative products that range from baby diapers to military tank armor.

Organizing face-to-face team talk for creativity requires more concentration on social dimensions of the team. Team members must feel they have permission to exhibit behaviors that in other contexts may seem nonconforming, even silly. Techniques that foster creativity may require team members to use language or draw symbols that they do not normally use. For example, metaphors and visual images can stimulate different thinking patterns and new ways to talk about a problem. Well-known expert on creative thinking processes Edward De Bono reminds us that creativity is not only concerned with generating new ideas, but also with escaping from old ones.

---

Discussion procedures designed to promote creativity will require team communication that is supportive, encouraging and, most importantly, nonjudgmental.

Some sources may tell you to arouse the team’s interest, motivation and effort for a creative task by setting the stage for fun and frivolity. The problem with this prescriptive advice, however, is that many problems that can benefit from a creative approach do not lend themselves to frivolity. For example, how do we expand health-care facilities for the aging prison population without resources or political support? How can a company prevent layoffs in an economic downturn? In what ways can we enable timely reductions in greenhouse gas emissions while minimizing the economic burden on the organization? How will we address a leak of confidential data from the company’s servers? These are not funny problems and making fun of them, even in the spirit of creativity, can project an incorrect message.

Gordon, a pioneer in research on the psychology of problem solving and one of the first to research creativity in groups, observed that there were mental states that promoted creative and innovative results. However, Gordon knew that telling a team to be intuitive, detached, empathetic, playful and to tolerate irrelevance was ineffective. DeBono made the same observation and states that if you give people tools that allow them to share ideas in a formal and systematic way, they become motivated to be creative and develop better creativity skills. Just as some discussion procedures and decision aids make analytical thinking explicit, observable and communicated, there are small group discussion procedures that make the creative process transparent.

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Creative Problem Solving
A plan or strategy that separates divergent thinking and convergent thinking processes for optimal effectiveness

One way to help the team get a new perspective on the team's task is with a creative problem solving approach (See chapter Organizing Team Talk for Structuring). Creative problem solving is a structure or a plan that contains the same components of regular problem solving. These familiar phases include gathering data, defining the problem, generating solutions, evaluating choices and planning action to develop and to implement the solution. In other words, creative problem solving approaches, like other problem-solving structures, tell the team what to talk about and in what order topics will occur.

Within a creative problem solving framework techniques tell the team how to talk about the issue. Recall that discussion procedures provide a context that allows each member to contribute her/his own ideas to a common developing line of thinking. Creative problem solving requires divergent, or creative thinking, as well as convergent or analytical thinking. Divergent thinking is meant to produce a variety of solutions by deliberately enacting new thinking patterns and actions that deviate from the normal. Convergent thinking evaluates and narrows down choices. Because these two types of thinking are quite different, small group discussion procedures within a creative problem solving structure work to separate the two thinking processes for optimal efficiency, yet allow both thinking processes to work ultimately be applied for maximum effectiveness.
Brainstorming is a technique for encouraging the generation of ideas. It is a specific process used to create an environment where the participants feel comfortable offering suggestions, and it usually results in the production of a great number of ideas.

**Procedure Characteristics**

<table>
<thead>
<tr>
<th>Scope</th>
<th>Low</th>
<th>Applies to a specific subtask — generation of ideas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Restrictiveness</td>
<td>High</td>
<td>Imposes limitations on the team's behavior</td>
</tr>
<tr>
<td>Precision</td>
<td>High</td>
<td>Rules are explicit</td>
</tr>
<tr>
<td>Team Control</td>
<td>High</td>
<td>The team can apply this procedure itself; no facilitator is required</td>
</tr>
<tr>
<td>Member Involvement</td>
<td>High</td>
<td>This procedure requires the cooperation of all members</td>
</tr>
</tbody>
</table>
Team Talk

The purpose of team talk in brainstorming is to produce a list of ideas that can later be evaluated and potentially serve as leads to problem solutions.

According to Osborn, there can be no brainstorming without the deferment-of-judgment rule being strictly enforced\(^5\). Members freely contribute ideas and each new idea may trigger another suggestion from someone else. Reinforcement is provided to team members by rewarding all suggestions with receptiveness.

Task Implications

Brainstorming is most appropriate when the team's task is specific and fairly limited in scope. Under these conditions, the technique will lead to proposals that are most likely to be feasible and not so numerous to be overwhelming.

Although brainstorming is commonly used to generate solutions, it can be useful for a number of the team's subgoals, such as redefining the problem, generating possible causes, improving the team's processes, coming up with ways to overcome challenges or ideas to take advantage of opportunities.

A disadvantage of brainstorming is that a large number of options will force the team to spend time subsequent to the brainstorming session to evaluate possible ideas to implement. Also, ideas formed in a fast-paced brainstorming session may be vague, and potentially good ideas may be lost unless the team invests time to clarify the ideas.

**Team Implications**

Brainstorming is most useful with a small number of individuals, when time is plentiful, status differences among team members are minimal and a need exists to verbally discuss ideas with others. The size of the group may range from three to four people to many more; ten to twelve is comfortable. A group of six to seven participants is optimal to keep the process going without becoming boring and frustrating as can happen when there are too many participants. Also, in a larger group, participants talk among themselves and may begin to evaluate their own ideas.

Some team members may be unwilling to participate freely because they fear their suggestions will be seen as inaccurate or having little or no value.
Outcome Implications

Studies of brainstorming suggest that this discussion technique produces a wide range of ideas and heightens group enthusiasm. However, these ideas have been found to be of lower quality compared to other noninteractive methods to generate ideas. The poorer performance of group brainstorming may be attributed to communication apprehension, premature idea evaluation, and members letting a few do most of the work of giving ideas.

However, brainstorming methods create enthusiasm among team members and members have a perception of having generated more ideas as a group than they would have individually. The goal of the team should drive what discussion procedures it uses. For example, if idea generation is the overriding goal, another method will better meet this goal. On the other hand, if team cohesiveness and team satisfaction is a primary goal, then brainstorming is the way to go.

Note

It is easy to get overwhelmed by the volume of ideas that are generated in a brainstorming session. Be sure to have a follow-up plan to process the ideas generated.


Basic Guidelines

Brainstorming is a very explicit process for stimulating ideas. Deferment of evaluation and promotion of quantity is advanced with four rules for a brainstorming team:

1. No criticism
   The first rule is to postpone evaluation of ideas—those of others as well as one’s own. Tell participants that another session will be used to evaluate. This rule is the most critical one, because the best way to reduce effective idea generation is to make premature evaluation and/or judgments. To curtail criticism, one method is the “tinker of the bell” in which one member will ring a bell each time s/he observes a judgment taking place.

2. Wild ideas
   Participants are made to feel that they are expected to offer unconventional ideas. This gives the adventuresome members the sanction they need to participate and helps the more inhibited members to relax. “Free-wheeling” is welcome and invited. Free-wheeling means that any ideas are permitted, no matter how outlandish or fanciful. One person’s flight of fantasy may be the trigger for another’s generation of a very workable idea. A plant or two—people prepared with unconventional suggestions—can help get the session moving.

3. Many ideas
   Participants are told that they should come up with as many ideas as they can. The key objective of brainstorming is to produce a large quantity of suggestions, for the greater the number, the greater the possibility that quality ideas will emerge. Encouraging quantity increases the chance that later suggestions will be original.

4. Integration
   Whenever possible, ideas should be combined and improved. When a participant builds on another’s idea, the leader should reinforce this behavior. This is called, “hitchhiking,” the art of combining and improving on ideas. Frequently a team will develop a cue for members to use when they want to hitchhike; for example, snapping a finger. The member who uses this cue will be permitted to speak before another person who is presenting a totally new idea.
Instructions

Roles

Discussion Leader – Introduces the technique and conducts practice session. S/he explains the purpose of the session and lets the group know how the team’s product will be used. The leader conducts the actual Brainstorming session, ensuring that the rules of brainstorming are strictly enforced.

Scribe – records each verbal contribution exactly as stated. Two or more scribes can be used to collect comments as they may come faster than the scribe can write. The scribes can divide the task up by room location or by order of contributions.

Team Members – contribute ideas freely and refrain from judgment of any idea, including their own.

Preparation

The preparation for a brainstorming session involves deciding on the participants, developing a problem statement, and choosing a setting appropriate to idea generation.

Warm-up Session

During the warm-up session the team member who acts as the leader of the brainstorming session has a goal to develop a cooperative spirit among the members, offer opportunities for practicing creative thinking and provide experiences for building on ideas.

The warm-up session is vital, even for a group experienced in brainstorming. Regardless of how often they have done it, the participants will come into the room without being focused on the experience before them. Think of how a basketball team warms up, even though they have played together often and know the rules. Warm-up sets the stage for working together.

The total time allocated to the warm-up session can vary. It might take 20 minutes or it might take an hour, depending on the task and the members participating in the Brainstorming session. The discussion leader needs to explain the purpose of this time so that everyone understands that what may appear to be foolish games is actually an important part of the process.
Warm-up Sequence
1. Discussion on creativity.
   Leader may present a short mini-lecture on the topic of creativity.

2. Creativity exercise
   Use a simple example to illustrate the process.
   a. Practice generating ideas for a specific question.
      Example: Ask: How many uses can you come up with for a piece of string?
   b. Practice building on ideas
      The leader asks for one idea and asks the next team member to build upon it
   c. (Optional) Practice of problem redefinition by demonstrating different approaches
      Example: Wishful thinking: “given all the power I wanted, I would ...”
      Example: Analogies: “a piece of string is like ...”
      Example: Reversals: “View this problem as an opportunity rather than an obstacle”

Idea Generation (Brainstorming Session)
By the time of the actual idea-generation session, the leader will have explained the roles and rules of the process, and the group should be in a state of relaxed alertness.

1. Give the Problem Statement

2. Allow a few minutes for participants to quietly think about the problem statement.

3. Invite participants to brainstorm ideas relating to the problem
   If there is a lull in the generation of ideas, the leader can
   a. Simply let the slump continue—when the group finally breaks through the slump, there will be a resurgence of ideas
   b. Use open-ended questions to stimulate more ideas
   c. Share her/his own ideas
   d. Encourage building on the ideas of others
While the members are generating ideas, the scribe(s) writes their suggestions on chart paper. A generous amount of chart paper should be available. If this step is handled well—that is, if evaluations are postponed and people are comfortable being creative—a group of six to eight person will usually produce about five to six ideas per minute.

4. Stimulate additional idea generation.
The best ideas come after the initial wave of ideas. Here are some ways of generating additional ideas when the participants are bored or frustrated.

Trigger Sessions
In this exercise, the participants work independently. Ideas are silently generated and then read out loud. The leader encourages building on ideas.

Recorded Round Robin
Each member of the group is given a small card with the problem statement. Then s/he writes one idea for the problem on the card and passes it to the next person. The next participant responds by wring down another idea which is suggested by the last response written on the card. The cards will be passed several times.

Wildest Idea
Ask the participants for the wildest solution they can imagine. They are encouraged to generate as many ideas as possible from each wild idea. This is an excellent way to re-energize a group; a good deal of fun and excitement can be stirred up and this energy can be translated to the problem.

It is important not to run any of these routines longer than fifteen minutes as this is a fast-paced process.
Categorization/Evaluation

Categorization.
After idea generation, the leader invites participants to categorize ideas for the next 20 to 30 minutes. This can be done in a number of different ways. The leader may ask what items logically fit together. Another method is to give team members colored dots to indicate like items. During this time more ideas may be suggested. This stage provides a good transition to the evaluation.

Evaluation.
During the evaluation, participants begin to identify the best ideas to have a starting place. This can be done informally by simply asking for ideas, or the leader may come up with a weighting process for selecting the best ones.

Follow-up
Follow-up is an optional step in which a contact person is assigned to receive additional ideas that participants may have during the days following the session.
CREATIVITY

Team Uses for This Procedure

- Coordinate Thinking
  - Set Objective Ground Rules
  - Avoid Bad Habits
- Capitalize on Strengths
  - Balance Participation
  - Surface Conflict and Manage Conflict
  - Promote Sense of Progress
  - Encourage Team Self Reflection
  - Empower the Team

Group Mind Map

Mind mapping is a technique that can be used to harness a variety of thinking approaches—word, image, number, logic, rhythm, color and spatial awareness. Based on brain research of how humans store and retrieve information from memory, a mind map uses hierarchy and categorization to structure thoughts.

Procedure Characteristics

<table>
<thead>
<tr>
<th>Scope</th>
<th>High</th>
<th>Applies to a specific subtask—generation of ideas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Restrictiveness</td>
<td>Medium</td>
<td>Team behavior is somewhat controlled</td>
</tr>
<tr>
<td>Preciseness</td>
<td>High</td>
<td>Rules are explicit</td>
</tr>
<tr>
<td>Team Control</td>
<td>Low</td>
<td>Requires a knowledgeable facilitator</td>
</tr>
<tr>
<td>Member Involvement</td>
<td>High</td>
<td>This procedure requires the cooperation of all members</td>
</tr>
</tbody>
</table>
Team Talk

The team talks about a central theme, concept, idea, topic or subject that is reduced to a central image or a single word.

Mind Mapping is a way the team can take advantage of non-linear communication patterns, and reduce the risk of unproductive, chaotic collective thinking. Emphasis is on free association of ideas which are represented visually using images, color, symbols and spacing. Whenever possible, words and images are linked to the senses: sight, hearing, smell, taste, touch and physical sensation. Communication is supportive and accepting of all members' ideas, and all ideas are captured on the collective mind map. Collective creation of a mind map makes team thinking explicit, observable and communicated.

Task Implications

Mind Mapping is a method to stimulate ideas through associations and to capture unformed thoughts in a graphic format. Since a number of objectives can be accomplished with this method, it is important that the objective be clearly and concisely defined. The old saw, "begin with the end in mind," applies here. Some possible objectives that mind mapping can facilitate are:

- Capture and develop 'flashes' of insight
- Clear mind of previous assumptions about the subject
- Create new conceptual frameworks within which previous ideas can be reorganized
- Explore creative possibilities of a given subject
- Generate ideas that result in specific action to be taken
- Plan creatively
Mind Mapping goes beyond idea generation in that the end product, the mind map, can be used to tell a story about the team's objective. Since telling a story takes more time than creating a list, like in brainstorming, plan to invest time to allow this method to produce a usable product. Also, the first pass of mind map will not be perfect. This is not to say that a messy map is not a useful map. It just means that the team may need multiple starts to capture their collective thinking in a way that is meaningful to them.

This method will likely require more resources to accomplish than other creative methods. Namely, a skilled facilitator is a key success factor to help the team translate disconnected verbal comments into appropriate concept images. You may need to obtain an outside facilitator if your organization does not have someone trained in conducting mind mapping meetings. Also, more time is required. The team's schedule needs to include time not only for instruction on the method, but also practice using the method on a topic not related to the one the team will actually address.

The group mind map can be used as a springboard to other team tasks such as planning, evaluating, and prioritizing. If possible, save the mind map and keep it on display. Some teams display these mind maps in their war rooms throughout the duration of their project.

**Team Implications**

Because this method is so different, mind mapping has a high potential for collecting a volume of rich, creative data from individuals. Also, because it is so different, it has a high potential for being a non-productive exercise, and the team may wonder “why did we do this?” The team climate needs to be one where members are allowed to “look silly” and say “incorrect” things. You must be very clear what task the team is performing and communicate the objective in advance.
Note
Some team members may be unwilling to participate freely because they fear their suggestions will be seen as inaccurate or having little or no value.

Outcome Implications
Group Mind Mapping is a way to transform a variety of individual thinking styles into collective thinking that is explicit, observable and communicated. The method may be more beneficial when you have a diverse team, such as a multifunctional team project team. The nature of the method which incorporates supportive communication and building on the input of others works to naturally create consensus and a feeling of togetherness.

This method may be a challenge for teams with members that have similar thinking styles. For example, an engineering team may be made up of mostly logical, linear thinkers or a creative services team may have a lot of visual thinkers. However, it may be worth the effort to get like-thinking members to open themselves up alternate thinking approaches.
Basic Guidelines

* Begin with a key word and color image in the center
* Use images, symbols and codes throughout
* Words should be PRINTED
* Printed words should be on lines and each line should be connected to other lines
* Use suggestive concise key words
* Use colors to appeal to the eye, stimulate thought and reinforce memory
* Your mind should be as "free" as possible.
  You will think faster than you can write.

Instructions

Preparation

1. Give all members all relevant information about the topic to be considered.

2. Define the topic clearly and concisely.

3. State expected outcomes.
   Some possible outcomes:
   * Gather information from diverse perspective about a key issue
   * Stimulate creative thinking about a topic
   * Arrive at a way to solve a problem or deal with a critical issue
   * Capture and organize the team’s thinking

3. Tell members to bring:
   * A positive mental attitude
   * A commitment to the absurd

If team is unfamiliar with this approach, schedule time to practice this method. See practice
Mind Map exercise at end of this section.

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8 Buzan, T. & Buzan, B. (1996). The mind map book: how to use radiant thinking to maximize your brain’s
untapped potential. New York: Plume.
CREATIVITY

GROUP MIND MAPPING

Steps

Step 1 – Identify Central Image/Word
For the topic under consideration, identify a central image or word that is the essence of the team's focus. You can solicit ideas from members individually before the mind mapping event, or the facilitator can select an appropriate image.

For example, suppose your team is meeting to discuss, “in what ways will green policies impact our operations?” An image that represents this concept might look like a leaf or a green planet. If the team cannot decide on an image, you can just write one word that captures the essence of the topic and draw a circle around the word. Using both an image and a word will help to focus the team's thinking.

An image to stimulate team thinking about green policy might be something like the figure below.

![GREEN](image)

Step 2 – Identify Basic Ordering Ideas (BOIs)

Individual Idea Generation.

Have team members individually think about the topic under consideration. Have them begin by drawing their own stimulating central image. Allow time for team members to individually reflect, and then write down ideas radiating from the central topic.

Basic Ordering Ideas (BOIs) are key concepts within which other ideas can be organized. These concepts are used to connect other ideas and facilitate associations. These might be basic objectives or knowledge categories. For the Green topic, three BOIs might be “reuse,” “reduce,” and “replace.” If the team is still not getting the idea of BOIs, try asking them if we were writing a book, what would be the chapter headings?
Keep BOIs at a high level of abstraction. For example, instead of using 'employees' as a basic ordering idea, use "people," which can include employees, customers, vendors, etc.

Hint: Start with 5 to 7 categories (BOIs)

Step 3 – Associate other ideas to BOIs

Small Group Discussion
Divide the team into groups of three and have them exchange ideas from their individual Mind Maps. It is essential that all ideas are accepted and supported. Encourage building on each others' ideas and add to their own Mind Maps.

Step 4 – Create an initial team Mind Map
Use a giant screen or cover a wall with chart paper to record the basic Mind Map structure. Decide on some basic design features, such as meaning of colors, codes (stars, circles, triangles, etc.). From the group as a whole, select Basic Ordering Ideas for the main branches radiating from the central image/word. Begin to populate your map with associations, incorporating all ideas from individual and small group Mind Maps.

One scribe can be selected for the whole group or representatives from each small group can come up to can add to team Mind Map.

Adhere to the rules regarding mind mapping meanings. The rules are not meant to restrict collective thinking, but to provide order that will help make the team's thinking, explicit, observable and communicated.

Be clear
- Use single words
- Print all words
- Print key words on lines
- Make line length equal to word length
- Connect lines to other lines
- Make central lines thicker
Use emphasis
- Use images throughout the Mind Map
- Use color
- Link ideas to physical senses
- Use variations in size of printing, lines and images
- Use spacing to organize and emphasize

Use association
- Use arrows to make connections within the map
- Use codes, symbols, shapes
- Use numbers, letters to logically order

Step 4a - When blocked, try one or several of the following:
- Add blank lines to your map
  This may challenge the group to complete what has been left unfinished.
- Ask questions
  Just asking basic questions may stimulate additional thought: Why? What? Where? Who?
- Add pictures
  Pictures have multiple interpretations and can trigger additional thoughts.
- State that associations are limitless and give some examples.
  a) Exemplification: “An illustration of this is the…”
  b) Contrast: “As opposed to,…”
  c) Comparison: “X resembles Y in that…”
  d) Enumeration: “These can be divided into three types,…”
  e) Chronology: “The earliest…”
  f) Causality: “As a consequence…”
  g) Process: “Initially, ... then ... finally …”
  h) Spatial Order: “X moves outwards to the …”

Step 5 - Review your map
As a group, summarize what you have mapped to refresh memories and renew creativity.
Repeat Step 4 as needed.
Step 6 – Make your map beautiful, add meaning
After reviewing and revising your map, enhance your ideas with colors and symbols.

Connect lines to other lines. Transform lines to arrows, curves, loops and circles. Thicken lines for important points. Add numbering where appropriate.

Step 7 – Apply the information
At this point, the team can use the capture information to make decisions, set objectives, or develop plans.
**Mind Mapping Mini Exercise**

This exercise will introduce the team to the Mind Mapping procedure. Mind Mapping differs from standard brainstorming in that it uses associations to expand creative potential. An example is provided below. You can use any topic for this practice exercise. Just be sure to use a topic different form the one you will use in the actual mind-mapping session.

**EXAMPLE:**

1. Provide each team member with an incomplete Mind Map structure which includes a central concept.

**Figure 3 – Sample Structure**
CREATIVITY

GROUP MIND MAPPING

2. Give instructions to individually fill in the structure. Quickly (allow 1 minute)—without pausing to think about it—fill in with printed single key words the first ten associations you have that radiate from 'happiness'.

3. Stop the team after one minute.

4. Analyze the results. What words generated were common to the whole group? To be common they must be the EXACT same word. Each person reads aloud their results and a scribe publicly charts them, underlining any words that are identical.

Note: You might have the group predict in advance how many would be common to all team members. It is normal for there to be few if any common words.

5. Expand associations. Have team members individually expand each of their original ten words with further associations. Have them draw additional lines as needed and remind them to use single words on each line.

When you have completed this exercise, individuals will be at the second, third and fourth branch levels on their Mind Map—and they will see they could go on forever.
Nominal group technique (NGT) is a structured problem-solving process specifically designed to generate ideas and produce team agreement. This technique is one that is especially effective for use in situations where individual judgments must be tapped and combined to arrive at decisions which cannot be calculated by one person. In other words, situations where there is a variety of interests, ideology, and opinion and they all need to be brought together.

**Procedure Characteristics**

<table>
<thead>
<tr>
<th>Scope</th>
<th>Medium</th>
<th>Procedure is used for generating and evaluating ideas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Restrictiveness</td>
<td>High</td>
<td>Imposes limitations on the team's behavior</td>
</tr>
<tr>
<td>Preciseness</td>
<td>High</td>
<td>Rules are explicit and precise</td>
</tr>
<tr>
<td>Team Control</td>
<td>Medium</td>
<td>Depending on the application, may be run by neutral facilitator or by the team itself</td>
</tr>
<tr>
<td>Member Involvement</td>
<td>High</td>
<td>This procedure requires the cooperation of all members</td>
</tr>
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</table>

**Nominal Group Technique**
Team Talk

NGT is helpful to identify problems, explore solutions and establish priorities.

The unique NGT process combines a silent time for idea generation with social reinforcement of an interacting group setting. This structured process forces equality of participation among members in generating and sharing information about the issue. NGT discussions progress toward a sense of closure, accomplishment and interest in future action toward solving a problem.

Task Implications

Nominal Group Technique (NGT) is a method for organizing team talk to allow individual judgments to be effectively pooled and used in situations in which uncertainty or disagreement exists about the nature of a problem and possible solutions. The technique can deal with only one question at a time, but does effectively combine the ideation phase and the evaluative phase. Ideation provides a search for ideas, and evaluation seeks to screen and merge ideas. Silent reflection is best for ideation and interaction is best for evaluation.

Note

The ideas generated with this technique will most likely be more fully developed than those that come out of interactive brainstorming. However, they are still only suggestive and will need more clarification. Therefore, NGT needs to be used in conjunction with another discussion procedure specifically for idea development.
CREATIVITY

NOMINAL GROUP TECHNIQUE

Team Implications

NGT was developed to permit reflection, allow equal participation and to take advantage of interactive evaluation. It works particularly well in teams where members do not know each other well or it is important to neutralize differences in status and verbal dominance among team members.

Because NGT has very precise but simple rules, it quickly brings people together to approach a common task. The team will see their progress in a relatively brief period of time.

Note

Because of the emphasis on individual thinking, NGT is not appropriate for teams who need to develop interacting problem-solving and team-building skills.

Outcome Implications

Generally team members will generate more ideas when they work alone and are not allowed to communicate with each other. Interactive brainstorming tends to inhibit creative thinking because premature evaluation does happen either through verbal and nonverbal communication or through self-censure. A few people can dominate interactive idea generation discussions and others will be content to let them do so.

NGT guides the team to reach consensus in a relatively short period of time.

Note

Because part of the NGT process using voting, there is a danger that the team may perceive the outcome as a decision when the purpose of NGT is to generate ideas.
Basic Guidelines

Roles

Leader. The leader is responsible for preparing the NGT question. S/he also conducts the session, giving instructions and coordinating responses from the group.

Participants. The ideal size of an NGT group is 5 to 9 members. Larger groups can be handled by making minor changes in procedures, particularly in the round robin step. Any group larger than 12 members should be divided.

With an average size group, the entire process can be completed in 90 minutes. By limiting the round robin and serial discussion of ideas, it is possible for a group to get through the process in an hour.

Scribe. The scribe captures participant responses in the round robin, being sure to write exactly what the participant says on the chart paper.

The Process

Preparation

1. Formulate and test the NGT question.

The leader should pay careful attention to the phrasing of the question. It should be as simple as possible, but should elicit items at the desired level of specificity and abstraction. NGT is a single-question technique.

Get several people involved in preparing the question. Begin by clarify the objectives for the team and the types of responses the leader wants to get from the group. With objectives and examples in mind, proceed to formulate the question. If there is time, pilot test the question to make sure it evokes the desired type of response.
2. Assemble supplies.

The NGT question should be typed on a sheet of paper which will be distributed to each member of the group.

Other supplies include:
- easel and chart paper, marking pens,
- masking tape,
- 3 X 5 cards.

3. Prepare the meeting room.

Wall surfaces should be suitable for taping up filled chart paper. The best table arrangement is an open “U,” with the easels and chart paper located at the open end.

4. Train discussion leaders.

The training session should simulate the process. For training purposes, good NGT questions are either the actual question to be used or the general question, “what barriers do you anticipate in using NGT on your team?” If the actual question is used, the training session is an occasion to pilot test the phrasing of the NGT questions. (See Preparation Step #1).

Instructions

Opening
Set the tone for the process by stating
1. The importance of the task and the unique contributions of each member
2. The overall goal of the session
3. How NGT will be used to attain that goal

Briefly summarize the four steps of NGT, using a visual aid to help describe the process.
Instructions

The Session

Step 1 Silent Generation of Ideas in Writing
   Allow four to eight minutes for this step.

Distribute the question on individual sheets of paper and/or display it before the group. Read the question aloud to the group and ask members to respond to it by writing their ideas in phrases or brief sentences. Remind them that the lists will not be collected, so good penmanship is not important.

Ask members to work silently and independently. Demonstrate good behavior by doing your own silent writing. Immediately stop disruptive behaviors such as talking.

Some members may ask about the meaning of the NGT question. You may illustrate the degree of generalization desired or call upon one of the members of the team to do this for you. In either case, do not lead the team in any direction. Tell persistent questioners to respond to the NGT question in whatever way is most meaningful to them.

Step 2 Round-Robin Recording of Ideas

Explain that the objective of this step is to map the team’s thinking and create a record. As you go around the table, each member is to present orally one idea from her/his own list in a phrase or brief sentence without discussion, elaboration, or justification. You will continue to go around the table until all ideas have been presented.

Explain that each member is to decide whether her/his item duplicates one already presented. A member may pass at any time, but may reenter the process in the next round. Continue to call on members who have passed. Encourage members to hitchhike on others’ ideas and to add new items, even though these items may not have been written down during Step 1.

The recorder will record items on chart paper as rapidly as possible, using a letter of the alphabet to track each individual contribution. Record the responses in the member’s own words. Avoid condensing and abbreviating when possible. It is very important that the participants know that they have produced the items and that the list belongs to them, not to the recorder. Ask long-winded participants to come up with simpler wording. If this causes a delay, tell the person you will return to her/him for a shorter phrase and move on to the next member.
As you fill sheets of chart paper with items, make sure they are visible to everyone. If you have someone to assist you, have them tape up the filled chart paper while you continue with the round robin recording. Another option that can expedite the process is to ask one of the group members to assist you by taping sheets to the wall.

With a large group, the length of the list can be controlled in several ways. For example, you can announce in advance that you will solicit around the table only two or three times. Or, when a sufficient number of items have been generated, say you will go around the table only once more and they should give you the best item remaining on their sheets.

Step 3 Serial Discussion of the Listed Ideas

Announce in advance that number of minutes to be devoted to this step.

The usual rule of thumb is to allot two minutes times the number of items. If the time is short, allow only the number of minutes until adjournment, minus fifteen minutes for the voting in Step 4.

Explain that the purpose of this step is to clarify the ideas presented. Read each item aloud in sequence and invite comments. Members may note their agreement or disagreement but arguments are unnecessary as each person will vote independently in Step 4. Do not waste time on conflict. As soon as the logic of a position is clear, cut off discussion. The meaning of most items will be obvious to the group and little or no discussion will be necessary.

Encourage viewing the list as team property. Anyone can clarify or comment on any item. If someone asks about the meaning of one of the items, it is productive to encourage someone other than the contributor of the particular to clarify what it means to her/him. The leader can model good behavior at an appropriate point with a comment such as, “well, to me this item means...”

Within reason, new items can be added and small editorial changes made. Duplicate items may also be combined. However, the leader should resist attempts to combine any items into broad categories. Some members may seek to achieve consensus by this means, and the precision of the original items may be lost.
Step 4  Prioritization

The purpose of this step is to set priorities. Ranking is the simplest and usually most effective voting technique. Ranking is used because it can be quickly tallied and the results are easily interpreted.

Each person should receive five 3 x 5 cards (seven cards if the list is long). Ask members to select the five most important items and write one in the center of each card. They should write the item’s sequence numbers in the upper left corner. Tell them not to be concerned with penmanship; the only purpose for writing the item on the card is so they will not have to refer back to the sheet on the wall when they rank order their five cards.

Give the group a time limit (four or five minutes) to select their top five items. Do a countdown as the time passes (e.g., you have two minutes left). Request that the group members work silently, and that they wait until everyone is finished before rank-ordering the cards. Everyone will rank order their choice together.

Rank Ordering

When everyone has completed the set of five cards, announce that the rank-ordering will begin. Go through the following instructions without delay, using this general wording:

- Spread the cards out in front of you so that you can see all five at once.
- Decide which card is more important than all the others. Write “5” in the lower right-hand corner and underline it three times. Turn the card over.

A statement from the chart paper that is important to the participant written here
CREATIVITY NOMINAL GROUP TECHNIQUE

- Which is the least important of the four remaining cards? Write “1” in the lower right corner and underline it three times. Turn the card over.

- Select the most important of the three remaining cards. Write “4” in the lower right corner and underline it three times. Turn the card over.

- Select the least important of the two cards that are left. Write “2” in the lower right corner and underline it three times.

- Write “3” in the lower right corner of the last card and underline it three times.

Record Votes

Collect the cards. Shuffle the cards to communicate to participants that no one is going to pay attention to how each person voted. Record the vote on the chart paper in front of the team. You can prepare a tally sheet while the group is making their voting decisions.

If someone is assisting you, ask them to read off the votes to you: “Item K got a 5.” The reason for having them underline their ranking three times is so that you can tell the difference between the number of the item and how they ranked them. Tally rankings alongside the column of item sequence letters.

Sample Vote Talley

<table>
<thead>
<tr>
<th></th>
<th>2, 1, 1, 1</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>L</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>M 3, 5</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>4, 4, 5</td>
<td>N</td>
</tr>
<tr>
<td>D</td>
<td></td>
<td>O</td>
</tr>
<tr>
<td>E</td>
<td>3, 3, 5</td>
<td>P</td>
</tr>
<tr>
<td>F</td>
<td></td>
<td>Q 3</td>
</tr>
<tr>
<td>G</td>
<td>5</td>
<td>R</td>
</tr>
<tr>
<td>H</td>
<td></td>
<td>S</td>
</tr>
<tr>
<td>I</td>
<td>T 1, 2, 2, 4</td>
<td></td>
</tr>
<tr>
<td>J</td>
<td>U 1, 2, 4</td>
<td></td>
</tr>
<tr>
<td>K</td>
<td>5, 3, 2, 4</td>
<td>V</td>
</tr>
</tbody>
</table>
Lead a discussion of the voting pattern.

The number of votes an item gets is likely to be the most important indication of its relative priority. Resist the temptation to play numerical games, such as adding the rankings together to arrive at a consolidated score. In the above example, adding the scores would obscure the different patterns of support for items A and G: that four different members of the group thought that item A was one of their most important items.

If time permits, the group can further clarify the items and vote again. Keep the discussion brief, and caution people not to change their minds frivolously.
Synectics comes from the Greek word, synektiktein, meaning bringing different things into unified connection. As a creativity technique it uses metaphors and analogies to help teams achieve breakthroughs. It encourages pooling ideas and combining elements of several proposals.

**Procedure Characteristics**

<table>
<thead>
<tr>
<th>Scope</th>
<th>Medium</th>
<th>Can be applied to any task requiring creative solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Restrictiveness</td>
<td>High</td>
<td>Team behavior is directed by a facilitator</td>
</tr>
<tr>
<td>Preciseness</td>
<td>High</td>
<td>Rules are explicit</td>
</tr>
<tr>
<td>Team Control</td>
<td>Low</td>
<td>Requires a trained facilitator</td>
</tr>
<tr>
<td>Member Involvement</td>
<td>High</td>
<td>This procedure requires the cooperation of all members</td>
</tr>
</tbody>
</table>

**Team Uses for This Procedure**

- Coordinate Thinking
- Set Objective Ground Rules
- Avoid Bad Habits
- Capitalize on Strengths
- Balance Participation
  - Surface Conflict and Manage Conflict
  - Promote Sense of Progress
  - Encourage Team Self Reflection
  - Empower the Team
Team Talk

The goal is to solve a problem. The team acts as a resource to generate ideas for a problem brought to them from an outside source, referred to as the client.

Team members actively work together to find a solution to the client’s problem. Their energy is channeled toward the problem, and they build on each other’s ideas.

Team members quietly listen as the discussion leader asks questions of the person bringing the problem. The answers stimulate team members’ thinking about the problem and they individually write down their perceptions of the problem. The team is instructed phrase their ideas in “how to” statements. Team members present their ideas in structured turn-taking. These how-to statements contain possible solutions to the problem.

The procedure includes methods to inspire a creative shift by taking a break from the problem at hand to think about a topic (usually different, but related) using metaphors, analogies, or fantastical thinking. After these divergent tasks, the team goes back to the problem at hand.

Task Implications

The goal is to generate a solution or multiple solutions that the client will find useful. Although the process is easy, preparation is significant.

The problem is the client’s problem, not a team problem. The team is providing a service, creative problem solving. An advantage of turning over a problem to the team to solve is that an old problem can be view in new ways, or as Gordon phrased it, the familiar becomes strange.

The client gives the team the problem in a "how to" form. This is the problem as given (PAG), which may not be the actual problem that needs to be solved. For example, suppose the client had the problem, how to get people to attend a training class. As the discussion leader asks the client what has been done previously to solve the problem, the team listens for other problems. Team members may capture ideas like, how to reward people for attending, how to pay people to motivate others to attend. Although these may not be new ideas, the concept of reward is one that can be expanded upon during the Synectics session.

At the end of the session, the client selects a solution and the client is encouraged to state an action plan to implement the proposed solution.

**Note**

The process works better for individual rather than group problems. If the problem is a group problem, the team members may see themselves as having that problem and might find it difficult to concentrate on the client.

**Team Implications**

The key to this procedure is a skilled discussion leader who will guide the team to a creative solution of the client's problem. The process works best with about six to eight members. The leader creates the environment for the problem-solving session by monitoring a climate in which ideas of the various participants are respected and valued.

A major task of the leader is to check discounting behavior (communication that belittles individuals or their ideas) and to intervene when it occurs. In this way, the leader preserves the positive climate in the group and eliminates the need for defensive or offensive behavior by participants.
An important element of the creative environment is the excursion, a deliberate move to get participants away from consciously thinking about the problem. Synectics uses the excursion to allow the subconscious mind to work on the problem and find clues to possible solutions. The process also provides a step for the conscious mind to link the material developed during the excursion with possible solutions to the problem. Excursions serve to energize the team as well as to promote development of possible solutions.

**Note**

Participants may have difficulty with the excursion; some may be reluctant to fantasize.

**Outcome Implications**

This procedure works well when people feel in a rut or blocked with a problem. While there is a specific structure, there is plenty of room for creativity. The process is fun and participants feel very involved in the process. In addition, the client is able to get a number of new perspectives on the problem, which can give the team a sense of accomplishment. A successful Synectics session can contribute to member satisfaction and promote a willingness to work together on future projects.
Basic Guidelines

The leader should provide an overview of the process at the beginning of the session so the participants will have an idea of the structure.

The leaders should explain the three roles of the client, participant and leader in some detail. This may be an unique approach for the participants.

The scribe must write up all the material generated on chart paper during discussions. This will be a good reference for the client later. The team member’s own words should be recorded. This will reinforce the importance and value of the team’s ideas.

The process is flexible. The goal is to solve a problem. If at some point the process begins to block the possible solution, move on to something else.

Roles

Leader—The leader of a creative problem-solving session is the one who takes responsibility for the process. The leader is there to facilitate the solution of the problem. A major task of the leader is to check discounting behavior (communication that belittles individuals or their ideas) and to intervene when it occurs. In this way, the leader preserves the positive climate in the group and eliminates the need for defensive or offensive behavior by participants. The leader creates the environment for the problem-solving session by monitoring a climate in which ideas of the various participants are respected and valued.

Client—The client defines the purpose of the team by presenting the problem to be resolved.

Participants—Team members who actively work together to find a solution to the client's problem. Their energy is channeled toward the problem, and they build on each other’s ideas.

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Concepts/Tools

Excursions
An important element of the creative environment is the excursion, a deliberate move to get participants away from consciously thinking about the problem. Synectics uses the excursion to allow the subconscious mind to work on the problem and find clues to possible solutions. The process also provides a step for the conscious mind to link the material developed during the excursion with possible solutions to the problem. Excursions serve to energize the group as well as promoting development of possible solutions.

Spectrum Policy
A key element of a Synectics session is communication among the various members. One tool used to facilitate communication and reflect on ideas is the Spectrum Analysis. Instead of judging an idea as 'good' or 'bad', the spectrum policy views every idea on a continuum from plus to minus.

Sample Spectrum Analysis

\[
\begin{array}{c|c|c}
(+)& \text{What I like} & \text{My concerns}\rightarrow (-) \\
\hline
\text{Idea 1} & & \\
\text{Idea 2} & & \\
\end{array}
\]

When using spectrum analysis, participants listen for and make statements about:

1. What s/he likes and can use from the idea
   “What I like about your idea is …”

2. Concerns s/he has about the idea
   “My concern about your idea is …”

3. How those concerns can become opportunities
   “If we did X, then this idea could do Y …”

The third item listed above is most important in that it helps remove blocks to possible solutions. In one sense, creativity is the ability to respond to old ideas in new ways and to put new twists on old solutions. Sometimes totally new answers are discovered.
Instructions

Two variations of Synectics will be described in this section. The first, Synectics – Multiple Solutions, has six steps and can be used when the client needs many ideas for possible solutions to the problem. The second variation, Synectics – Single Solution, has five steps and is useful when the client wants one fully developed solution. Also, Single Solution is more successful when team members are not comfortable with excursions and the use of fantasy.

Synectics - Multiple Solutions

<table>
<thead>
<tr>
<th>Step 1</th>
<th>Step 2</th>
<th>Step 3</th>
<th>Step 4</th>
<th>Step 5</th>
<th>Step 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Problem as Given</td>
<td>Purge</td>
<td>Wishes/Goals</td>
<td>Excursion</td>
<td>Force Fit</td>
<td>Possible Solutions</td>
</tr>
</tbody>
</table>

Step 1 – Problem as Given (PAG)
Write on chart paper problem as stated by client
Have Team clarify problem

The problem is stated by the client in a “how-to” form. For instance, the client may say, “My problem is how to accomplish 100% on-time project delivery.” The statement is made by the client in her/his own words and recorded on a sheet of chart paper. It is important that ownership of the problem belong to the client and not to the team.

During this step, the problem is clarified by the leader who asks:

- How is this problem for you?
- What kinds of things have been tried to solving this problem? What were the results?
- Do you see a possible solution or are you convinced that the problem has no solution?
During the PAG step, the team must listen closely to the client’s description. It is important that the team note any hesitation or doubt on the client’s part about the solvability of the problem. If the client believes the problem has no solutions, the problem will not be solved. The team must be sensitive enough to ask questions of clarification.

Sometimes questions from participants are used to hide a possible solution, or to mask a put-down. The leader needs to clarify remarks from participants as well as remarks from the client. Questions that have seeds of solutions should be set aside for the next step. Questions that put down the client should be confronted, explained and rejected. Discounting creates an unproductive environment.

Step 2 – Purge

- Chart solutions that immediately come to mind
- Use Spectrum Analysis on discounted ideas

The objective of the purge is to identify any immediate solutions for the problem. The leader asks for suggestions and writes them on chart paper in front of the group. This is a time for the client to attend to new ideas. The leader should be alert to the client’s responses and to possible solutions. If the client repeatedly discounts new ideas by responding, “I’ve already tried that,” the spectrum policy should be used on those ideas that have been generated.

In some teams, there will be many items generated during the purge, and in others only one or two. At the point when the client says, “I’ve got what I want”, the process can be stopped. Sometimes, in fact, the client will be satisfied with a solution that comes up during the purge and decides to end the process.

Step 3 – Wishes/Goals

- Communicate hopes and frustrations
- Chart Wishes

Participants share their perceptions of the problem and the client’s relationship to the problem. The leader asks the participants to state their ‘wishes’ for the client and for the problem. Any wish is permissible. Wishes such as, “I wish this was not a problem!” or “I wish you were not in this room” are appropriate. The participants are able to work through their own frustrations with a particular problem at this time.

The leader has the task of assuring that team members do not censor or discount other people’s wishes. Since wishes are creative and varied, they are fun; there is usually a high level of energy and excitement during this stage. Wish ideas are recorded on chart paper.
Step 4 – Excursions

Excursions are used when the team is blocked and no new ideas are being generated. The objective of the excursion is to break away from the problem; anything the leader uses to do this is an appropriate excursion. However, if the group is enjoying the excursion so much that the members do not want to get back to work, the leaders should tactfully bring them back. The choice of excursion materials is up to the leader.

Excursion Suggestions

Personal Analogies
The leader picks a word from the wish list in Step 3, and asks the participants to image they are that word. For example, they may be asked to “be a rocket.” Then the leader asks questions like, “where are you going as a rocket?” “What does it feel like to be a rocket?” The leader records the descriptions on chart paper.

Examples
The leader picks a word and then asks for examples from various inanimate and animate worlds. For instance, if the world is rocket (inanimate), the leader may ask for examples of rockets form the world of politics (animate); if the word is rabbit (animate), the leader could ask for examples of rabbits from the world of geology.

Sample Categories

<table>
<thead>
<tr>
<th>Inanimate</th>
<th>Animate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minerals</td>
<td>Animals</td>
</tr>
<tr>
<td>Physics</td>
<td>Politics</td>
</tr>
<tr>
<td>Chemistry</td>
<td>Biology</td>
</tr>
<tr>
<td>Geology</td>
<td>History</td>
</tr>
<tr>
<td>Buildings</td>
<td></td>
</tr>
</tbody>
</table>

Book Titles
The leader selects a word from the wish list (e.g., rabbit) and asks participants to compose a book title containing the essence and paradox of that word (such as slow rabbit, or smooth hopping).

Once the group gets away from the problem, then it is time for Step 5.
Step 5 – Force Fit.
In this step the conscious mind uses the ideas generated by the subconscious mind as material from the Excursion is fed back into the problem-solving process.

Begin by pointing to the material collected in the Excursion and asking, “does anyone see possible solutions here?” The key is to let the team come up with ideas, so allow a period of silence as the team makes connections. If the team does not respond, here are some techniques to get the creative juices flowing.

Round Robin
The leader reads material from the Excursion material and has participants write down ideas that come to mind. When everyone has had a chance to reflect and write down their ideas, the leader goes around the room asking each person for one idea. The next person can contribute a new idea, or is encouraged to add to the previous idea. Continue going around the room until you have accumulated a sizable list of possible solutions.

Get Fired
The leader asks the group to image the most outrageous solution to the problem they can. It should something for which the client would be fired if s/he were to suggest it to the boss. Once extreme solutions are identified, the leader slowly brings the team back to a possible solution, using questions such as:

- What elements make this a solution?
- How might those elements be practically applied?

Step 6 – Possible solutions
Using the list of possible solutions, have the client narrow down the choices using the Spectrum Analysis. The leader asks the client to again consider each of the possible solutions by asking the following questions:

- Is the possible solution new or novel? In what ways is it new to you?
- Is the possible solution sufficiently specific or do you need to develop more details?
CREATIVITY SYNECTICS

The team has now come up with some possible solutions to the client’s how-to problem (Step #1), and it is up to the client to develop an implementation plan. If the client details an action plan, there is a greater chance the implementation will take place. The leader might encourage this by asking the last question:

- What are the first two steps you need to take in order to implement the solution?

Adjourn

To close out the session, the leader should write the final solution on chart paper in the client’s own words, along with action plan implement the solution.

**Synectics - Multiple Solutions**

<table>
<thead>
<tr>
<th>Step 1</th>
<th>Step 2</th>
<th>Step 3</th>
<th>Step 4</th>
<th>Step 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Problem as Given</td>
<td>Analysis</td>
<td>How-to Statements</td>
<td>Directional</td>
<td>Possible Solution</td>
</tr>
</tbody>
</table>

This technique resembles Synectics – Multiple Solutions in the first two steps. After that, the similarities diminish.

**Step 1 – Problem as Given (PAG)**

Write on chart paper problem as stated by client

The problem is stated by the client in a “how-to” form. The statement is made by the client in her/his own words and recorded on a sheet of chart paper. It is important that ownership of the problem belong to the client and not to the team.

The leader obtains the client’s permission to take charge of the process and explains Spectrum Analysis as the method of organizing suggested ideas.

Participants are asked to write down how-to statements they hear in the client’s problem as given. These statements often contain solutions and are fed back to the leader later in the process.
Step 2 – Analysis
During this step, the problem is clarified by the leader asking questions of the client. Participants listen to the client’s answers and continue to write down ‘how-to’ statements as they come to mind.

Leader poses the following questions to the client:

- How is PAG a problem for you?
- What kinds of things have been tried to solve this problem? What were the results?
- Do you see a possible solution or are you convinced that the problem has no solution?
- What are your expectations of the team?

Step 3 – How-to Statements
The leader captures participants’ how-to statements on chart paper.

The leader asks each participant for two or three key ‘how-tos’. It is important that each participant share her/his perceptions of the problem so the team can get a variety of viewpoints of the problem. These how-to statements are objective statements that can contain the possible solution ideas.

Step 4 – Directional ‘How To’
The client is then asked to select one how-to statement from the list that could lend itself to possible solutions to the problem.

The leader facilitates the selection with the client using Spectrum Analysis. Spectrum analysis will help spot perceived challenges and help identify ways to overcome challenges.

The client decides if any of the “how-to” statements contain the seed of a possible solution to the PAG. If so, the next step is to build on the idea and identify the major blocks that prevent the idea from being a solution. Each block should be considered until the idea reaches the point of being acceptable.
If the client does not have any suggestions about how to overcome a block, the leader calls on the resources of the team. During this time, the participants are still writing down 'how tos' as they hear the client talk, as well as sharing ideas on how the client may be able to overcome the block. If the client does have suggestions, the participants simply jot down "how tos" which are then turned over to the client at the end of the session.

Step 5 – Possible Solutions
When the directional 'how-to' reaches the point of being an acceptable solution, the client summarizes it and details the first steps to be taken in its implementation.

Then another "how-to" is chosen by the client and Step #4 is repeated. This continues until the client is finished.

NOTE: Excursions can be used in Synectics-Multiple Solutions at any point where ideas stop flowing, to help unblock or energize the team.
Organizing Team Talk
To Get Agreement
The purpose of a task team is to transform conversation into action and action into common goal achievement. Collaborative efforts, such as information sharing, opinion offering and error checking, must eventually merge into channeled cooperative behaviors that move the team closer to its shared purpose. In other words, the team needs to agree on an action or a course of actions to move toward their goal. If, for example, a software system implementation project team decides functional area heads need to be contacted before the implementation schedule is initiated, then all members must agree to suspend their individual implementation acts until they receive confirmation that functional heads have been contacted. To reach agreement the team could agree by consensus, negotiate an agreement, or simply take a vote. Each of these procedures has implications for the task, the team, and the outcome to be achieved by the team.

The necessity for getting agreement from all team members implies the existence of differences or disagreement. Disagreement is also known as conflict. There is lots of evidence to support the idea that a certain amount of conflict is good for the team and can increase member involvement, promote teambuilding, lessen the potential for groupthink, and improve the final decision. Conflict can also be disruptive, erode relationships within the team, and derail cooperative action. Therefore, how conflict is managed by the team impacts not only the quality of the team’s decision, but also members’ subsequent actions to implement the decision. Agreement is the bridge between talk and action. Just as a
bridge is supported by firm, deeply-grounded support structures, agreements need to be based on sound, grounded assumptions about the decision, the team, and the team's task. If these assumptions prove incorrect, then agreement is shaky and the path to implementation is blocked, just as a bridge built on weak supports will wobble and eventually collapse.

Many sources offering advice to teams suggest that consensus is the only legitimate means to solidify agreement. A good definition of consensus is a decision that reflects the views of all members and has the acceptance and the support of all members. Consensus, therefore, certainly implies a team approach. It appears to be the 'team way' because consensus contains assumptions that are often implicitly applied to teams. These include 1) reasonable, open-minded people can agree; 2) each individual's contributions are worthy of expression and consideration, and 3) team goals are member's goals. In other words, team members are committed to collective goals through collective means. Norms for team discussion when using consensus are supportive statements, requests for clarification, questioning for understandings, summarizing members' input and orienting talk that keeps the team on track and moving toward their objective. Unacceptable communication during consensus building includes negative comments toward other member's ideas, divisive arguments, and grandstanding. The constraints that consensus imposes on what gets said has implications on the decision.

Because mutual agreement is pursued, extreme views are tempered as moderate approaches are more easily accepted by more members of the team. This can be a weakness because decisions and solutions may be so diluted that they are far from optimal. This may be especially true if members have varying degrees of expertise and knowledge about the issue at hand. Moderate decisions and solutions can be an advantage in that it can protect the team against potential bias, extremism and incomplete knowledge. Whether an advantage or disadvantage, the consensus decision impacts how the task is accomplished and moves the team either closer or further from its common goal depending on the correctness and quality of the decision.
Consensus is hard and takes time, a lot of time. The rationale for investing the time and effort in consensus is its power as a teambuilding tool. The idea that people will use collective means to reach collective goals is marked by the fact that people will support what they help to create. Even if the decision or solution is less than ideal, by having been a part of its development people will feel a sense of togetherness and goodwill that can continue into future tasks. This is especially important for continuing teams and long-term project teams. A project manager or team lead might want to schedule time for training on agreement by consensus and apply it in the early part of the project to accelerate teambuilding and to set conflict management norms.

Realistically, teams do not always have members who are reasonable, and open minded. Individual goals are not always superseded by team goals and not everyone's contribution is worthy of consideration. When these basic assumptions of consensus appear to be false for the team, agreement by consensus need not be rejected out of hand. Studies show that by giving members instructions on how to agree through consensus, the influence of dominating members will decrease and collective performance in arriving at correct decisions can increase. Giving instruction on consensus before initiating the agreement process also increases information sharing and higher tolerance of diverse ideas. In other words, when group members are adverse to collaboration, training can be a leveler of interpersonal barriers to cooperation. Instruction on consensus will especially help the team in cases in which a consensual decision incorporates the values and objectives of the individual team members.

**Negotiation**

Incorporates the views of all members, but agreement is not necessarily built upon shared goals. Full endorsement by all members is not necessary, only that each member find enough value in the decision to support it.

When multiple and competing goals and values exist among team members, negotiation may be a better way to reach agreement especially when the team is ad hoc, temporary and teambuilding is not an important factor for success. An

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example might be a cross-functional team deciding on a software upgrade where each area comes in with an unwavering commitment to a position. Team members from the Finance area have a goal to stay within the yearly expense budget, Information Technology team members have a goal to stay current with technology, and members from the Sales area want to maintain customers who do not wish to change the current system. Nevertheless, each area acknowledges interdependence. Sales cannot increase its customer base without a new software system, IT cannot acquire new technology without Finance allocating the funds, and Finance cannot meet its revenue goals without increased sales. Conflicting values (stewardship of monetary resources, innovation, customer service) and competing goals make consensus an unlikely agreement vehicle. Negotiated decisions, like consensus, incorporate the views of all members, but are not necessarily built upon shared goals. Also, full endorsement by all members is not necessary, only that each member find enough value in the decision to support it. Negotiated agreements, therefore, are made through a series of complex, sometimes vague, trade-offs among the team members. While no member will be completely satisfied, no one is entirely dissatisfied.

Trade-offs are made through discussion that assumes no balance of participation or equity in power or status. Those team members with advanced communication skills will fare better with this method because the pursuit of personal goals must be simultaneously balanced with knowledge and acknowledgement of the others' positions. Team members advocate their position to a greater extent than in consensus, but there is still an expectation that positions are flexible rather than entrenched. Communication includes explanations, arguments and projected consequences. Arguments can contain emotional and logical appeals and strategies can stress benefit/cost equity or interdependence. Any communication that fails to tolerate and to adjust to alternative positions is seen as unacceptable.
Therefore, negotiation discussions are more advocative than consensus seeking, but less rigid than would be found in agreements forged by voting.

Agreements produced through negotiation are often complex, wordy and full of qualifications in order to address pluralistic concerns. Like consensus, negotiation will tend to generate moderate decisions and solutions in order to merge a variety of positions. As a result the end result may not be the optimal decision or solution, but it will likely be a practical and workable one. The negotiation process itself promotes individual team member commitment to its implementation as a result of the effort required to create a mutual final decision or solution. However, because strategic bargaining and careful trade-offs are achieved through competitive interaction, this method of reaching agreement does not promote teambuilding or help to establish collective goals as a priority. The team will implement the common decision or solution because it is pragmatic to do so. Future interaction will rely not on team relationships as much as the perceived equity of the decision and continued conditions of interdependence.

Regardless of their degree of cohesion or need for unity, all teams experience times when a decision needs to be made quickly, such as when they face a deadline. In cases like this where the primary objective is resolution, voting is a quick, expedient way to reach agreement. Voting is a method that achieves decisions through some predetermined criterion of support, such as simple majority or two-thirds majority. Neither unanimous agreement nor unanimous acceptance is required. Team discussion is directed toward definite disposition of the issue at hand and includes persuasive appeals, analysis of advantages and disadvantages and competing proposals.

This method has no explicit rule for equity of participation or limiting individual power. It is assumed that individual team members will have preconceived commitment that may or may not alter as a result of discussion. Team talk is competitive, goal
seeking and maybe even dogmatic. To manage the gush of comments, information, opinion, emotional and logical appeals, there is an expectation that a formal moderator role may emerge or be assigned. Actions the moderator takes may include determination of speaking turns, the maximum time for discussion prior to taking a vote and announcement of the method of registering opinion.

Some methods of registering agreement include simultaneous voice vote, roll call voice vote, simultaneous hand raising, or secret ballot. More than with other methods of reaching agreement, voting allows for extreme decisions because others’ positions need not be incorporated into the final decision. If power is unbalanced, the decision may reflect personal loyalties as much as independent beliefs. Obviously, this does little to promote teambuilding among all members. Also, because there are definite winners and losers with this method, implementation can be negatively impacted and accountability eroded by allowing deniability, “I didn’t vote for it”.

A description of voting and its assumptions seems to highlight that the method is counter to the ‘team way’ as talk is organized to contribute to divisiveness. It implies this method does not build the team; therefore, it should never be used. However, the very reasons voting appears to be a disadvantage are the reasons it can be an advantage. For example, when the team is faced with mutually exclusive choices and there are legitimate but incompatible, irreconcilable positions within the team, voting can be the way to curtail the conflict. Collaboration and cooperation will not spring from team talk organized around voting, but it is a tool to move the team from talk to action quickly. The method can be used to get members beyond the impasse and to move on to other tasks that will be more inclusive of all members’ views. A stalemate can be more damaging to team relations, not to mention the team’s task, than the discriminating use of voting.
The method used to bring the team to agreement, to convert talk to action, has implications for the team, the decision and the task. Consensus strengthens commitment, seeks moderate solutions and builds cooperation. Negotiation spurs pragmatic commitment, yields compromising solutions and maintains relationships based on interdependency. Voting saves time, allows for more extreme decisions, and resolution of the issue allows the team to move on to other tasks that can strengthen their cooperative spirit. Pressure to get team consensus to make members feel included in and satisfied with the group process needs to be weighed against the situation. Because of constraints on deliberations, negotiation or voting may be the better, more appropriate method. The method used to bring the team to agreement depends on a number of constraints introduced by the nature of the task, the members and the outcomes to be achieved by the team.

A description of methods to reach agreement may suggest agreement is something that is done at the end of team discussion, apart from other team discussion functions. Admittedly, getting the team to an explicit agreement does bring a sense of closure, especially if that agreement generates action. However, agreement is ever-present in team talk and team actions; it is incremental and accumulates to establish normative practices. For example, suppose Pat comes in ten minutes late to every team meeting and no comment is made about the behavior, thereby condoning the behavior of being late to the meeting. Team members need to be aware of the bias that silence is interpreted as agreement. The team’s internal norms and member roles can be implicitly set by accepting each other’s behaviors. That is why assuming consent without discussion can impact team interactions and productivity. Disagreement that goes unspoken can manifest itself in nonparticipation, nonsupport of team decisions or outright sabotage of team tasks. Therefore, each team member must feel they have an equal opportunity to contribute, and more importantly, to be able to disagree.
Conflict management is a deeper more complex topic than can be covered in a discussion of procedures used to reach agreement. Just knowing the how the choice of an agreement discussion procedure impacts the nature of team interaction, however, can help the team address their disagreements more effectively and transform their conversations into action and action into common goal achievement.
**AGREEMENT**

### Team Uses for This Procedure

- Coordinate Thinking
- Set Objective Ground Rules
- Avoid Bad Habits
- Capitalize on Strengths
- Balance Participation
- Surface Conflict and Manage Conflict
- Promote Sense of Progress
- Encourage Team Self Reflection
- Empower the Team

### Consensus

Consensus is a way to reach a decision that all members have a part in shaping and that all find at least minimally acceptable as a means of accomplishing some mutual goal. Consensus Rules are a set of general guidelines the team can use to reach agreement.

### Procedure Characteristics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Level</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scope</td>
<td>High</td>
<td>Can be applied to any task</td>
</tr>
<tr>
<td>Restrictiveness</td>
<td>Low</td>
<td>Imposes very little control on the team's behavior</td>
</tr>
<tr>
<td>Preciseness</td>
<td>Low</td>
<td>Guidelines are very general; they are more of a philosophy for team interactions</td>
</tr>
<tr>
<td>Team Control</td>
<td>High</td>
<td>The team can apply this procedure itself; no facilitator is required</td>
</tr>
<tr>
<td>Member Involvement</td>
<td>High</td>
<td>This procedure requires the cooperation of all members</td>
</tr>
</tbody>
</table>
Team Talk

Consensus rules are not concerned with what the team talks about. This is a high scope procedure and can be used for any task.

Language that facilitates consensus: supportive statements, requests for clarification, questioning for understanding, summarizing members’ input and orienting talk that keeps the team on track and moving toward their objective. Language that detracts from consensus: negative comments toward other member’s ideas, divisive arguments and grandstanding inhibit consensus.

Task Implications

Using consensus rules for gaining agreement frames the team task as a collaborative and cooperative endeavor and assumes that team goals and member goals are closely aligned.

Because consensus seeks agreement, it provides a safeguard against extreme positions. However, consensus also can result in less than optimal team products because the team’s decision needs to be understood and accepted by all members, including those with the least amount of knowledge and understanding of the issue. The weakest member of the group tends to limit the quality of the team’s solution. This is known as the common denominator effect.

Note

Consensus building takes time—a lot of time. If this is a new process for your team, be prepared to take as much as fifty percent more time over your previous agreement-reaching method. Also, the larger the team, the more difficult it will be to reach consensus.
Team Implications

If some members of the team are adverse to collaboration, providing brief instruction on consensus rules can break the barriers to cooperation. Research has revealed that just giving members the instructions on how to perform consensus significantly reduces the influence of high-status members and increases the group's collective performance in arriving at correct decisions. Giving the instruction on consensus before initiating the agreement process also yields increased information sharing and higher tolerance of diverse ideas.

Outcome Implications

Because of the high involvement by team members in building consensus, members are more likely to feel good about the team. Consequently they will be more likely to support and implement the decision.

Note

The common denominator effect can lead to member dissatisfaction and frustration not only with the team's decisions, but all with the consensus procedure itself.

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Basic Guidelines

Consensus is difficult to reach. Not every decision will meet with everyone’s complete approval. The team’s challenge is to come up with a decision that all members can at least partially agree.

1. Avoid arguing for your own individual judgments. Approach the task on the basis of logic.

2. Avoid changing your mind only in order to reach agreement and avoid conflict. Support only solutions with which you are able to agree to some degree.

3. Avoid conflict-reducing techniques such as majority vote, average or trading in reaching decisions.

4. View differences of opinion as helpful rather than as a hindrance in decision-making. Differences of opinion are natural and expected. Seek them out and try to involve everyone in the decision process.

5. Value disagreements. They can help the group’s decision because with a wide range of information and opinions there is a greater chance that the team will come to better solutions.

Instructions

The idea of agreement by consensus is essentially a philosophy of how teams should come to terms about issues. The method for getting consensus is described below. Having the team members formally declare their position can ‘seal the deal’ or it can uncover ambivalence and downright disagreement. Going through one of the declaration methods described below will help the team determine if they can move forward or need to collectively rethink their decision.
Preparation
1. A team member can act as a facilitator to clearly state the specific situation that will be the focus of the team during the consensus building process. The procedure assumes that the team has established a clear problem statement, analyzed the options and has some ideas for a decision or solution. These steps bring closure to this process by providing a mechanism for declaring support for the team’s final decision.

2. Define consensus:
   Consensus IS
   a decision that all members have a part in
   shaping and that all find at least minimally acceptable and will support.

   Consensus IS NOT
   Compromise

3. Define possible levels of support. (Optional)
   This step may not be necessary if the team has successfully used some method before to declare consensus. Teams new to the process or newly formed teams will benefit from listing behaviors associated with levels of support.

   The team member acting as the facilitator assists the team to determine what levels of support will look like as they collaborate for successful implementation of the decision. Encourage the team to specify behaviors that would be expected at each of the four levels. Make it clear that a decision cannot be implemented if the behaviors necessary to make it happen are not clear.

   Explain three levels of commitment. Ask questions and publicly chart behaviors the team associates with each level of support.

   Minimal Support – Make a positive effort

   At this level team members commit to do only those things critical to the successful implementation of the decision.

   ASK
   • What does minimal support of the decision look like?
   • What do team members need to say or do to indicate they are willing to make a positive effort to support the implementation of the decision?
AGREEMENT

Proactive support – Help make it happen

At this level team members commit to advocate the success of the decision and help plan, monitor, and assist in implementation the decision

ASK
• What will it look like if people are willing to give proactive support to this decision?
• What would team members need to be willing to do to plan the implementation of the decision?

Maximum Support – Lead the effort

At this level team members commit to support colleagues and to provide leadership in planning, implementing and evaluating the decision

ASK
• What will it look like of people are willing to give maximum support to the implement of the decision?
• What roles do members need to assume to implement the decision?

Declaring
There several ways for team members to declare their commitment to a decision. The simplest method is by using hand signals. The team can use thumb position to indicate level of agreement, or a variation is ‘fist to five’. The table on the next page details the meanings associated with each hand signal.
**Variation 1**

*Thumbs or 'Fist to Five'*

This method can be used to probe for the opinion of individual team members regarding an option under consideration.

**Thumbs UP**

5 Fingers  

**Total Agreement**

This is the best solution and I give complete support.

**Thumbs SIDWISE**

3 Fingers  

**Willing to Support**

I could live with this, but I have a concern.

**Thumbs DOWN**

Fist  

**Will Not Support**

I have serious concerns and prefer we not consider this option.

If any hands are ‘thumbs down (fist)’, or some of the hands indicate concerns,’ thumbs sidewise (3-fingers)’, the facilitator will initiate discussion with the following probing questions. The facilitator will list the answers on chart paper for public review.

**ASK**

To those with ‘Thumbs Down (or Fist)’—Why is it not possible to accept the option?

**ASK**

To those with ‘Thumbs Sidewise (or 3-Fingers)’—What are your concerns?

**ASK**

To those with ‘Thumbs Up (or 5-Fingers)’—What are your reasons for supporting the option?
Variation 2

Consensus continuum.

This method can be used to provide the team a visual display of the positions held by all team members on the issue under consideration and also provides an inventory of concerns and support addressing these concerns.

1. The option under consideration is written on chart paper for everyone to see. The facilitator will check in with the group to verify there is agreement that this is the option being considered.

2. The facilitator leads a discussion about the option under consideration. The facilitator models questions for clarification and paraphrasing. Team members state their opinions and their support for their opinion.

3. After the discussion, the facilitator asks if the option is still valid as stated. If no, the option is re-written on the chart paper and step 2 is repeated. If everyone agrees that the option is still valid, go to the next step.

4. When the group agrees that the option statement is accurate, create a continuum line under the option statement like the one below:

<table>
<thead>
<tr>
<th>Levels of NO</th>
<th>Levels of YES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5</td>
<td>6 7 8 9 10</td>
</tr>
</tbody>
</table>

Walk the team through the levels of no and yes giving a definition of each level:

1. Absolutely not
2. Strongly No
3. No
4. Somewhat opposed
5. Mildly opposed
6. Mildly in favor
7. Somewhat in favor
8. Yes
9. Strongly Yes
10. Absolutely Yes
5. Each member has a 3 X 3 post-it note. The facilitator has each team member write the number of her/his rating and a brief statement of rationale giving the reason for her/his rating.

6. Have participants place the post-it notes on the flip chart in a column under the number that matches their rating. The result will be a vertical bar graph that provides a visual display of opinions held by the team.

7. Invite the team to read the comments on the consensus continuum chart. After everyone has had a chance to review the comments, the facilitator will start a discussion about the different opinions for and against the option. The facilitator should remind the team members to keep an open mind and to ask questions that will press members to elaborate on their position.

8. After the discussion, repeat steps 5 and 6. This time members will sign their names on their post-it note, in addition to the rationale for the rating. When the post-it notes accumulate toward the right side of the charge, the facilitator will declare that a decision has been made. Date and label the flip chart as 'Decision Declared'.
Negotiation

Negotiation is an agreement seeking process that looks for win-win resolutions.

**Procedure Characteristics**

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## Team Talk

The team talks about each member’s interests or needs as they relate to the issue under consideration and how one solution or decision can meet all members interests and/or needs.

Team talk consists of offering proposals, discussing them, rejecting them, followed by offering counter proposals. Counterproposals are often referred to as trade offs. Communication includes explanations, arguments and projected consequences. Arguments can contain emotional and logical appeals and strategies can stress benefit/cost equity or interdependence. Any communication that fails to tolerate and to adjust to alternative positions is seen as unacceptable. This back and forth communication cycle continues until an agreement is reached.

### Task Implications

Business problems usually have social and political components and there are often many people who care about or have something at stake in how the problem is resolved. Unlike most team tasks where agreement is built upon shared goals, negotiation is used when team members have different or conflicting goals. The task is not so much about agreeing on the “best” decision or solution, but it is about designing a feasible change that incorporates the views of all members. Unlike consensus where team members must be willing to support the decision, reaching agreement through negotiation requires that member receive some value from the decision or solution.

### Team Implications

Negotiation may be used in cross-functional teams, where members have different goals and values, yet maintain interdependence. Communication during negotiations assumes no equity in power or status. Those team members with

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advanced communication skills will fair better with this method because the pursuit of personal goals must be simultaneously balanced with knowledge and acknowledgement of the others' positions. In other words, members need to get what they want and also get along with the other members.

**Outcome Implications**

Negotiation discussions are more advocative than consensus seeking, but less rigid than would be found in agreements forged by voting. Negotiated agreements, therefore, are made through a series of complex, sometimes vague, trade-offs among the team members. While no member will be completely satisfied, no one is entirely dissatisfied. As a result the end result may not be the optimal decision or solution, but it will likely be a practical and workable one.

The team will implement the common decision or solution because it is pragmatic to do so. Future interaction will rely not on team relationships as much as the perceived equity of the decision and continued conditions of interdependence.
Basic Guidelines

Negotiations are undertaken to find a solution that gives each team member at least some of what they desire, or provides each member enough value to accept the final decision or solution. Fisher, Ury and Patton⁢ offer an approach called Principled Negotiation, which facilitates reaching agreement through negotiation.

Separate the people from the problem.

Discussion during negotiations needs to focus on resolution of conflicting interests, rather than on personalities. Be alert for communication that discounts the person or her/his problems and concerns as well as personal attacks, which will not promote progress to reaching agreement.

Focus on interest, not positions

A position can be seen as inflexible, such as, “I want technology X.” An interest is something that can be satisfied in many ways: “I am interested in providing customers the most up-to-date technical services.” Discussing member interests provides greater opportunities to find overlapping interests among the team members.

Invent options for mutual gain

Don’t limit the number of options that are considered. The more alternatives the team generates, the greater the likelihood of finding a solution or decision that meets the interests of all parties.

Insist on using objective criteria

Use accepted standards, such as legal rulings or industry standards, to set terms of the agreement.

## Voting

Voting is a method that gets agreement through some predetermined criterion of support, such as simple majority or two-thirds majority. Neither unanimous agreement nor unanimous acceptance is required.

### Procedure Characteristics

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Team Talk

Team discussion is directed toward definite disposition of the issue at hand.

Voting has no explicit rule for equity of participation or limiting individual power. It is assumed that individual team members will have preconceived commitment that may or may not alter as a result of discussion. Team talk is competitive, goal seeking and maybe even dogmatic.

Task Implications

Regardless of the degree of team cohesion, all teams experience times when a decision needs to be made quickly, such as when they face a deadline. In cases like this where the primary objective is resolution, voting is a quick, expedient way to reach agreement. Some predetermined criterion of support, such as simple majority or two-thirds majority is used to carry a decision. Neither unanimous agreement nor unanimous acceptance is required.

Team Implications

If a vote is taken to expedite a decision, there may be a need for a formal facilitator to manage team talk that attempts to persuade the votes of team members. Actions the facilitator takes may include determination of speaking turns, the maximum time for discussion prior to taking a vote and announcement of the method of expressing preference.

Some methods of registering agreement include simultaneous voice vote, roll call voice vote, simultaneous hand raising, or secret ballot. The method used to express preference, either sequentially or simultaneously, may pressure team members to go along with the majority. Secret ballots may encourage deniability and erode accountability when the vote is not unanimous.
Outcome Implications

More than with other methods of reaching agreement, voting allows for extreme decisions because others' positions need not be incorporated into the final decision. Obviously, this does little to promote teambuilding among all members. Also, because there are definite winners and losers with this method, individual accountability may erode and implementation of the decision can be negatively impacted.

However, the very reason voting appears to be a disadvantage is the reason it can be an advantage. For example, when the team is faced with mutually exclusive choices and there are legitimate, but incompatible, irreconcilable positions within the team, voting can be the way to curtail the conflict. A stalemate can be more damaging to team relations, not to mention the team's task, than the discriminating use of voting.
**Basic Guidelines**

**Decide How to Decide**

It is beneficial for the team to have discussed early in their history when and how voting will be used to make a decision. Not every decision is critical. Not every decision requires consensus. However, it is important to establish in advance an understanding on what agreement method may be appropriate in which situations.

**Decide the method of registering votes.**

There are several ways of registering a vote. The fastest way is by simultaneous hand raising. Another method is by roll call vote, where each person needs to verbally state her/his preference. Seeing others raise their hands or hearing votes of team members may pressure some to vote the same way to avoid conflict. To avoid any pressure to conform, the team may elect to use secret ballot where they write their preference on paper. Paper ballots are collected and counted by the leader.

**Set rules for breaking tie votes.**

Allocation of votes is normally one person, one vote. However, the team may decide one or more members have more votes, or their vote can be used to break a tie.

**Establish the level of support needed to carry a decision**

There are at least two ways to determine the winning vote:

**Most Votes.** The option with the most votes wins, even if it does not have a majority.

**Majority Vote.** For an option to win, it must receive at least 51% of the votes. Alternatively, the team may increase the percentage needed to carry the vote to two-thirds vote (66.6%).

**Call for the vote**

The leader should formulate an unambiguous the question to be decided. The question needs to be stated so that team members can say, “yes, I agree” or “no, I don’t agree.”

The leader may decide to take a “straw vote” or nonbinding vote to determine where the team initially stands on the question. This nonbinding vote can be followed by additional discussion. The leader needs to clearly indicate when the binding vote is to be taken.
<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Argument</td>
<td>A reasoned communication in which one or more statements is used to support another statement or claim.</td>
</tr>
<tr>
<td>Collaborative Learning</td>
<td>Team members mutually searching for understanding, solutions, or meanings</td>
</tr>
<tr>
<td>Consensus</td>
<td>A decision that reflects the views of all members and has the acceptance and the support of all members.</td>
</tr>
<tr>
<td>Creative Problem Solving</td>
<td>A plan or strategy that separates divergent thinking and convergent thinking processes for optimal effectiveness.</td>
</tr>
<tr>
<td>Creativity</td>
<td>Unexpectedly appropriate combinations or associations of ideas.</td>
</tr>
<tr>
<td>Decision Aids</td>
<td>Visual tools combined with discussion to facilitate team learning.</td>
</tr>
<tr>
<td>Decision Making</td>
<td>A process of deliberation, choice and planning which involves the gathering and processing of information, problem definition, solution search, analysis and evaluation of alternatives, selection of a course of action and planning for implementation. Decision making reflects the social thinking and political processes that are prerequisites for taking action.</td>
</tr>
<tr>
<td>Discussion Procedures</td>
<td>Sets of rules or guidelines used to achieve specific goals.</td>
</tr>
<tr>
<td>Groupthink</td>
<td>A deterioration of mental efficiency, reality testing and moral judgment that results from group pressures.</td>
</tr>
<tr>
<td>Innovation</td>
<td>Incorporation of creative ideas into a finished article.</td>
</tr>
<tr>
<td>Issues Agenda</td>
<td>A linear strategy of discussion where discrete items are addressed within a set time period.</td>
</tr>
<tr>
<td>Negotiation</td>
<td>An agreement-seeking method that incorporates the views of all members, but agreement is not necessarily built upon shared goals. Full endorsement of decision/solution by all members is not necessary, only that each member find enough value in the decision to support it.</td>
</tr>
<tr>
<td>Term</td>
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</tr>
<tr>
<td>----------------------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Problem</td>
<td>A gap between what exists and what is desired, combined with a desire to close that gap.</td>
</tr>
<tr>
<td>Problem formulation</td>
<td>The process of expressing the present set of conditions, symptoms, causes and triggering events into a problem statement or set of problem statements sufficiently well specified so that the risk of using analytic procedures to solve the wrong problem has been minimized.</td>
</tr>
<tr>
<td>Problem Solving</td>
<td>The communication processes team members use when their task is to overcome some unsatisfactory situation or obstacle to achieving a goal.</td>
</tr>
<tr>
<td>Problem Solving Discussion</td>
<td>A transforming process where a problem changes into steps for action toward a solution.</td>
</tr>
<tr>
<td>Problem-Solving Agenda</td>
<td>A plan or strategy to move the team through steps of a decision-making model on a time-compressed scale, focusing on a specific issue or subproblem.</td>
</tr>
<tr>
<td>Process</td>
<td>Events that are on-going, dynamic and ever changing. There is no beginning, end or fixed sequence of events. Ingredients within a process interact with each other affecting all the others.</td>
</tr>
<tr>
<td>Role</td>
<td>A set of communicative behaviors performed by an individual in light of the expectations that the other members hold toward those behaviors.</td>
</tr>
<tr>
<td>Small Group</td>
<td>A few people engaged in communication interaction over time, usually in face-to-face settings, who have common goals and norms and have developed a communication pattern for meeting their goals in an interdependent manner.</td>
</tr>
<tr>
<td>Small Group Communication</td>
<td>Interaction among a small number of people who share a common purpose or goal, who feel a sense of belonging to the group, and who exert influence on one another.</td>
</tr>
</tbody>
</table>
## Glossary

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
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<tbody>
<tr>
<td>Small Group Discussion</td>
<td>The interaction among a small number of people for the purpose of achieving a common objective; a tool teams use to arrive at sound judgments.</td>
</tr>
<tr>
<td>Team</td>
<td>A coordinated group of individuals organized to work together to achieve a specific, common goal.</td>
</tr>
<tr>
<td>Voting</td>
<td>An agreement seeking method where agreement is determined by a predetermined criterion of support, such as simple majority.</td>
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REFERENCES


REFERENCES


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