Task Group Structuring, a Technique: Comparison of the Performances of Groups Led by Trained Versus Nontrained Facilitators

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TASK GROUP STRUCTURING, A TECHNIQUE: COMPARISON OF THE PERFORMANCES OF GROUPS LED BY TRAINED VERSUS NONTRAINED FACILITATORS

by
Paul A. Lang

A Dissertation
Submitted to the
Faculty of The Graduate College
in partial fulfillment
of the
Degree of Doctor of Education

Western Michigan University
Kalamazoo, Michigan
August 1977

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Thanks are due to more people than I have space to name, but a few were outstandingly supportive. Thank you, Dr. Bob Betz, for developing the task-group structuring technique and for securing departmental approval of the experiment. To the members of the Department of Counseling and Personnel, thank you for exemplifying the qualities of responsiveness and cooperation. Thanks are due to the class instructors and the students who participated in the experiment. Special thanks to Dr. Hap Frizzell and Ms. Barbara Dambach, who served so capably as trainers in the experiment.

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I am most appreciative of the Kalamazoo Baha'i Community for their love, encouragement, and prayers when times really got rough. Finally, thanks to my wife and two fine kids for hanging with me throughout.

Paul A. Lang
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CHAPTER I

BACKGROUND AND RATIONALE FOR THE STUDY

Statement of the Problem

The focus of the study is upon a specific technique for verbally structuring task groups (Betz, 1974) at their formation in order to enhance overall group performance. Betz has been conducting field-based training sessions utilizing this structuring technique for more than 2 years. Practitioners in higher education, public school, and human services institutions who work regularly with groups have strongly endorsed task group structuring as a valuable group process technique. However, no empirical study designed to assess the technique has been conducted to date.

This lack of empirical data supporting or refuting the viability of task group structuring has been addressed by this study. If it is as promising as claimed by those endorsing it, the technique should be widely disseminated. Data to indicate its potential would be likely to strengthen the dissemination effort.

Betz (1974) recognized that the quality of interaction during the opening minutes in the formation or reformation of a task group is a variable having potential influence throughout the group life span. Betz reasoned:

The effectiveness of many task groups is negated in the first fifteen minutes because of inadequate verbal structuring. Structuring sets the tone for the group, gives
it direction, and starts the group process. Structuring is the first stage in group process. It provides parameters within which the group needs to function. Structuring also serves the purpose of reducing the anxiety of group members. . . . For others . . . it may serve as a stimulant for motivation. (p. 3)

Support for this viewpoint, that the opening minutes in the formation of new task groups are crucial, came from Bormann (1970) in his statement:

The first thirty minutes of a zero-history group is a very special time and what happens during those first thirty minutes cannot be generalized . . . to any subsequent thirty minutes in the history of an ongoing group. (p. 211)

The problem posed in this study is to determine whether or not treatment groups led by facilitators trained in task group structuring will express greater satisfaction and outperform control groups led by facilitators who have not benefited from such training.

Volumes of Small Group Research: An Untested Variable

Task groups are a reality in American organizations. A task group is a particular aggregation of people having responsibility for concerted efforts toward completing a specific job. Task groups are established for a variety of purposes: to advise, plan, recommend, solve problems, make decisions, develop products, or implement innovations. Boards, committees, task forces, or negotiating teams can be classified as task groups.

In the now classic Hawthorne Experiments (Mayo, 1933), conducted from 1927 to 1933 at Western Electric Company, the focus for the research sponsors and the researchers was upon the comparable productivity of the
experimental work groups. Work groups and task groups are distinct in several ways, but this early research pointed up relationships between social/psychological factors and group productivity that are common to both types. This issue of group productivity, effectiveness, and/or efficiency remains a prime concern of managers and administrators.

Research methodology in the social sciences over the past 7 decades has become highly sophisticated. The number of studies annually published which pertain to small groups geometrically increased from 1900 through 1953 (Strodtbeck & Hare, 1954). Small group research continues to be of high topical interest as evidenced by the number of studies reported since 1966 by the Educational Resources Information Center under the descriptors group behavior, group dynamics, or group relations. Anthologies of small group research (Cartwright & Zander, 1960; Collins & Guetzkow, 1964; Hare, 1962; McGrath & Altman, 1966) cite studies which focused upon group leaders, group members, physical settings, group size, group composition, frequency and duration of meetings, communications nets, nature of tasks, plus other variables as they impact upon the performance of experimental groups. Yet, not one of these many studies cited in the anthologies specifically isolated and tested whether or not the opening minutes in the formation of task groups may be a variable influencing their overall performances.

Conceptual Framework for the Study

An overview of current theory and research in management/administration, leadership, and small groups points toward two predominant dimensions which seem to cut across these major fields of study. In a
synthesis of the findings emerging from the famous Ohio State University Leadership Studies, 1946 to 1956, Shartle (1956) identified two dimensions as accounting for effective leadership behavior: initiating structure and consideration. Shartle described initiating structure as the "get the work out" dimension and consideration as the "human relations" dimension, attesting that these dimensions applied to leaders in military, industrial, and education organizations (p. 120).

In a model describing the dynamics of social systems, Getzels and Guba (1957) identified two dimensions: nomothetic (institutional) and idiographic (personal). The premise was that both of these dimensions interact in any social system and that neither of them can be neglected without seriously impairing the effectiveness and efficiency of an organization.

The Managerial Grid (Blake & Mouton, 1964), a model for measuring various leadership styles, similarly designated two dimensions as interacting to determine and predict a leader's potential effectiveness in an organizational setting. Task orientation is the get-the-work-out dimension, and people orientation is the human-relations dimension.

Based specifically upon small group research, Collins and Guetzkow (1964) developed a "simple working model of decision-making groups" (p. 81). The two critical dimensions of this group process model are termed task-environmental and interpersonal, paralleling the theories cited above.

In effect, research and theory in the areas of management/administration, leadership, and small groups point toward a formal (institutional) dimension and an informal (personal) dimension as the dominant
interacting factors in the performances of organizations, leaders, or small groups. Bormann (1975), in his text treating task-group processes, labeled these factors as the "task dimension" and the "social dimension," stressing that both must be attended to if a task group is to be successful in achieving its goals.

The interface between these dimensions serves as the conceptual framework for this study. Betz's technique for structuring task groups seems to address both the task and social dimensions inherent in task groups. The data generated from this study reflect these dimensions and help to determine whether or not the technique impacts significantly upon both of them.

Description of Betz's Task-Group Structuring Technique

Conceptually, the technique is simple and direct, having no gimmicks nor esoteric components. It appears to be applicable in a wide variety of situations regardless of a group's size, composition, task, setting, or other variables. Successful application of the technique naturally depends upon a minimal degree of maturity and interpersonal skills on the part of a prospective group facilitator. A short training period is all that is required to prepare persons to utilize the technique as group facilitators.

The mindset with which a leader or facilitator approaches the group seems to be a crucial determinant of how well the group will function. Prior to convening a task group, the facilitator must understand the relationship of the group to its social system, the likely consequences of success or failure, the degree of autonomy allowable to the group,
and the nature of the group tasks. All these factors have an effect upon a facilitator's behavior toward the group. Betz (1974) stipulated that task group facilitators should minimally "approach their groups with faith in group process, a clear idea of what the group should accomplish, its power in the greater organization, and some knowledge concerning interpersonal needs and how to express them" (p. 3).

Once the group is convened, the structuring technique is then applied. It consists of seven basic components: (1) the time limit, (2) the group context, (3) the group charge, (4) member behavior, (5) leader behavior, (6) the decision-making method, and (7) record-keeping. Clear enunciation of these components by a group facilitator in a straightforward, friendly tone can get the group directly involved in accomplishing its tasks.

(1) **Time** is an obviously important group consideration. Much of the antipathy toward group involvement is based upon people's experiences on committees which aimlessly squandered time. Betz (1974) maintained that a primary responsibility of a group facilitator is to assist the group to set its time parameters and strictly adhere to them, with sessions beginning promptly and ending at the agreed-upon time. A no-nonsense attitude toward time increases the likelihood that it will be used productively.

(2) The **group context** is especially important to group members. Often, group members are not made aware of where their group fits into the decision-making process, access which they may have to various organizational resources, the combined expertise of their membership, or the limitations upon their power to act. Members of a group who are
uninformed of such contextual factors are likely to maintain a cautious, closed stance or feel anxiety when they do participate. Betz (1974) recommended that the group context be explained by the facilitator to the members, honestly and to the fullest extent possible.

(3) The group charge is the particular task or responsibility assigned to the group. It is crucial that every member understand the nature and purpose of the charge, and that they feel comfortable with it so that their best input toward accomplishing it can be secured. The facilitator has responsibility to present logically and comprehensively the charge, in printed form if necessary. He/she should encourage interaction to assist members in personalizing the charge and ascertain that it is clear to everyone.

(4) Member behavior as a structuring component consists of the facilitator indicating how he/she hopes members will conduct themselves in the group. A statement of these expectations will not assure compliance, but it will set the tone for the interaction. For example, in one context a facilitator may request the members to express themselves freely while keeping the discussion relevant and respecting each other's ideas; in another context, the facilitator may request that, prior to speaking, members raise a hand to be recognized. If members understand the permissible degree of formality or informality as well and the actions required to complete the task, chances are good that they will comply.

(5) Leader behavior as a structuring component consists of the facilitator outlining what the group members may expect of him/her under normal circumstances. The group context and the facilitator's mindset
determine the approach he/she takes toward a group, with Betz (1974) recommending that the group be given as clear an explanation as possible of the facilitator's intentions. Knowing in advance, for example, that the facilitator will be keeping the group focused on the task, often summarizing or paraphrasing the discussion, reminding the group about the time, and intervening under specified circumstances, the group members will be able to concentrate upon the contributions they and their fellow members make.

(6) Some kind of decision-making method must be instituted and agreed upon by the members of a task group. Methods range from highly complex parliamentary procedures to simple group consensus. The size and composition of the group as well as the complexity or gravity of its charge are partial determinants of an appropriate decision-making method. Betz (1974) stressed that the method being used should be known to all group members, and not be designed to deprive anyone of rightful participation.

(7) Record-keeping is necessary within a functioning task group, both to monitor progress toward task completion and to allow for easy data retrieval either during or after the group session. Record-keeping systems range from the highly complex, and even automated, to a simple pencil and pad. When feasible, a record-keeping system which does not inhibit the participation of any group member is preferable. It is an especially sensitive issue that a group facilitator avoid sexism in designating a recorder or calling for volunteers. Betz (1974) recommended that an appropriate record-keeping system be deployed at the outset and that the facilitator periodically check that it is

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functioning properly.

Betz (1974) cautioned against any mechanistic application of these structuring components. He stressed that a creative blend must occur between the personality, style, and mindset of the group facilitator and the dictates of the situation in applying the technique. The structuring which occurs in the opening minutes of the task group session is designed to prepare the group to accept its responsibility to act. Following the structuring, during which the facilitator has played a focal role, he/she must then "turn over" that responsibility for action to the group. This turnover is a crucial moment in the task group, because the members will test whether or not the facilitator intends to comply with the structure that has been established. A major premise of task group structuring as a technique is that the facilitator must demonstrate the behaviors identified as appropriate to the group.

Field-Based Literature on Task Group Techniques

In the past 15 years, various texts, handbooks, and technical manuals have been published on topics such as conducting better meetings, committee effectiveness and efficiency, or task group leadership. These publications are typically geared toward, and/or generated from, corporate interests, reflecting a general theme: ways to "get things done" in groups. The authors of these publications spring from an experiential rather than from a scientific research base. They address themselves to techniques which have worked for them in some occupational context, each registering his own biases, yet commonly reinforcing each other in what they have learned will work.
By analyzing several of these publications which address the general topic of task group processes in relation to the structuring components identified by Betz (1974), some indication of his technique's practical potential becomes evident. Each of these publications cited at least four of the seven components as fundamental group leader concerns. No single aspect of the Betz structuring technique is original, but according to available literature, the technique as an entity has not been duplicated elsewhere. Figure 1 shows how some authorities treated these components from both the leader and member perspectives in comparison to Betz.

From this chart, it would appear that Betz (1974) has appropriately identified the common components of task group process. Where one of these texts failed to specifically refer to one or more of these components, its authors seemed to be operating under the assumption that the unmentioned components were too obvious to warrant mention. For example, Phillips, Taylor, and Kolivosky (1966) failed to mention leader behavior, the decision-making method, and record-keeping as components of task group process, yet throughout their text they compiled checklists and anecdotes which showed recognition that these unmentioned components can contribute to, or detract from, group productivity.

Matthies (1967) came closer to the Betz perspective than any of the other authors. Matthies mentioned all seven components and advocated that group members be as informed as the group leader of five of them. He felt that the group context and the record-keeping function were primarily the group leader's concerns.

Three points of contrast emerge between Betz (1974) and the authors
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<sup>a</sup>A fundamental concern for group leaders. <sup>b</sup>A crucial concern for group members.

Figure 1. Published views on the seven structuring components.
cited in the chart:

1. Betz made no assumption that any of these components are too obvious to be mentioned. He viewed them all as fundamental concerns for an effective and efficient task group.

2. Betz did not perceive that any of these components are the unique concern of the group leader. Group members share these concerns, though not necessarily to the same extent as the group leader.

3. Betz has concisely but thoroughly defined the seven components and coalesced them into an explicit technique for structuring new or reforming task groups.

The high incidence with which these author-practitioners have identified as fundamental to task group process those components comprising Betz's technique serves as practical basis for predicting that overall performances of groups would be enhanced when task group structuring is applied. There seems to be an ample theoretical basis for making this prediction as well.

Why Task Group Structuring Should Enhance Group Performance

The conceptual framework for this study has been established as the interface between the task (initiating structure) and social (consideration) dimensions in a group context. The key conception is that both these dimensions must be addressed for a task group to be effective and efficient in its performance. In essence, the task-group structuring technique functions as (1) a comprehensive orientation of the participants to their situation within the group, and (2) a means for establishing an agreed-upon structure for communication and action directed toward accomplishing a specific group charge. The technique is designed
purposefully to nurture a group identity, a feeling of belongingness, which includes the leader/facilitator.

Orientation of people to a new situation is crucial in any administrative or social context, especially when that situation requires some degree of commitment from the participants. Orientation ideally enables individuals to see where they fit into the scheme of things and gives them good reasons for actively linking up with the others.

Research has clearly established the need for, and value of, orientation in a group context. In a study of the ways in which groups go about problem-solving, Bales and Strodtbeck (1951) identified orientation as the first phase undergone by those experimental groups which were successful in solving their assigned problems. It was also found that groups comprised of members who were fully oriented to the problems prior to convening were able to move directly into the second problem-solving phase identified by the researchers.

In another study, Tomekovic (1962) found that an "explanation of instructions for work, together with discussion of the explanation and the instructions, followed by decision-making concerning the work, acts as a significant motivational factor" (p. 213). Task group structuring parallels this pattern of explanation, discussion, and decision-making, which presumably should act as a motivational factor in this study.

Conversely, Lanzetta and Roby (1960) found in a study testing relationships between specific group process variables and group problem-solving efficiency that the "control of 'leadership' by withholding information from other group members is associated with poorer performance" (p. 147). Clear and open conveyance of relevant information is a major point of
emphasis in the task-group structuring technique; this seems likely to enhance a task group's performance to some extent.

Two-way communication between a group facilitator and members is crucial to the development of trust levels necessary for achieving cooperative endeavor. Loomis (1959) concluded from a small group experiment that "if the individual perceives mutual trust, he will cooperate, and if the individual does not perceive mutual trust, he will not cooperate" (p. 306). Task group structuring promotes maximal communication of relevant information to all group members; further than that, the facilitator has responsibility through interaction and feedback to ascertain that this information is digested and understood by the members.

Loomis (1959) also concluded that the individual group member "must not only be aware of his role in the cooperative relationship, but he must know the other person's role . . . before there will be any basis for cooperation" (p. 306). The deliberate delineation of expected behaviors for both group leader and members is an aspect of the structuring technique which seems likely to facilitate cooperation among group members. Furthermore, the setting of clear role expectations among group participants will partially free a group leader from the onus of disciplining individual members. Phillips et al. (1966) claimed that "when the group understands the rules of the game before it begins, they can discipline their own members who get out of line" (p. 325). This reduces the possibility of adversarial relationships developing between the leader/facilitator and any group members via the establishment of specific group norms.
The structuring technique being tested in this study is designed to convey clearly to the members their group goal and a path toward achieving that goal. Raven and Rietsema (1957) concluded from an empirical study:

As a group member, the subject who had a clear picture of his group goal and group path experienced greater feelings of group belongingness. . . . He was also . . . more willing to accept influence from his group, than subjects who were unclear about the goals and paths of their group. (p. 42)

That feeling of belongingness is crucial to the development of a group identity which is positively related to group performance.

Orientation which emphasizes the sharing of relevant information and the clarification of mutual behavioral expectations seems to broadly address the social dimension of group process. Strong consideration for group members is further demonstrated by leader/facilitator attentiveness to common concerns (e.g., time requirements, tasks to be completed, possible risks or rewards). Such consideration helps build credibility for the facilitator as group leader and serves to reduce the anxiety of members entering into an unfamiliar situation.

Anxiety is a common and predictable reaction by individuals to unfamiliar circumstances. From an ambitious experiment testing specific anxiety-reduction techniques on college students (O'Neil, 1972), a conclusion was drawn that "higher anxiety reactions were in part a function of subjects' lack of familiarity" (p. 111). Even for individuals who have served on many different task groups, there are areas of uncertainty at each new involvement. Task group structuring, with its emphasis upon sharing of information and clarification of responsibilities, seems
likely to reduce participant anxiety and to eliminate their uncertainty as quickly as possible. The sooner that anxieties can be allayed and questions pertinent to the group members answered, the more quickly the group is likely to concentrate upon accomplishing its charge.

Haythorn (1953) utilized a member characteristic that he termed "emotional stability" as an input variable, and measured its relationship with several output variables: group morale (satisfaction), productivity, and interest in job completion. A major gauge of emotional stability was a subject's rating on an anxiety scale; low anxiety was an index of emotional stability. It was experimentally established that emotional stability had a positive relationship to group morale (.57), productivity (.47), and interest in job completion (.43). Insofar as the structuring technique alleviates unfamiliarity and reduces anxiety, it seems feasible to predict that it will enhance group morale (satisfaction) and productivity.

Utilizing a personality index termed "adjustment," Mann (1959) experimentally established that there was a positive relationship between adjustment and the total activity rate (participation) of group members. He equated adjustment to low individual levels of anxiety, neurosis, or psychosis. It was also found that a group member's adjustment had a positive relationship with "positive social-emotional activity" (supportive and cooperative behavior). Conversely, it was found that adjustment had a negative relationship with "negative social-emotional activity" (disruptiveness). Task group structuring is a means for assisting members to adjust to participation in their group, perhaps setting in motion relationships parallel to those found in Mann's study.
Maier and Hoffman (1960) conducted a study comparing task groups led by trained and nontrained discussion leaders. Those groups led by individuals trained in a specific "developmental discussion" technique produced higher quality decisions than those led by nontrained individuals. Compared to the developmental technique described briefly in the Maier-Hoffman study, the Betz technique for structuring task groups seems to be a more inclusive and potent treatment for prospective leaders. Accordingly, it seems feasible to predict that groups led by individuals trained in task group structuring are likely to produce higher quality outcomes than groups led by individuals not trained in the technique.

By utilizing the seven structuring components as a preparatory checklist, a group facilitator will have considered in advance those questions which are concerns of all participants. Answers regarding the amount of time involved, the group's relationship to its social system, any likely risks or rewards for its efforts, and procedures for accomplishing its charge can be formulated prior to the meeting or arrived at by group discussion. Such preparedness by a group facilitator demonstrates that he/she cares about the group, shares its concerns, and is ready to work with its members in accomplishing their tasks. Such demonstration helps to establish the facilitator as a highly considerate and competent group leader, and fosters a supportive climate within the group during its formative stage. Clearly established guidelines for behavior, procedure, and task relevancy enable a group to focus directly upon its charge.

Deliberate, comprehensive orientation as a function of task group structuring occurs concurrently with the establishment of an agreed-upon
structure for communication and group action. A simple schema (Figure 2) illustrates the potential effects which the structuring technique has upon a task group. Planned facilitator behaviors seem likely to convey certain impressions to members which would elicit positive responses.

By setting this process in motion, a group facilitator is thoroughly addressing the task and social dimensions of group process, as well as building his/her credibility as the group leader. Application of Betz's task-group structuring technique appears to be useful in fostering group identity, mutual trust, motivation to act, willingness to cooperate, awareness of a group goal path, and reduction of anxiety. With these combined effects, it seems feasible to predict that use of the structuring technique will enhance the overall performances of the experimental task groups.

Rationale for the Hypotheses to be Tested

This study was designed to assess Betz's task-group structuring technique for compatibility with the task and social dimensions of group process, as well as to test whether or not the technique enhances overall group performance. A direct criterion for assessing the social dimension of a small group is the degree of satisfaction its members express with their group experience. Member satisfaction has two distinct aspects, according to Ford (1972): satisfaction with participation and satisfaction with the group outcome, both of which need to be measured in some way.

A criterion for assessing the task dimension of a small group is the degree of concern shown by a group for completing its assigned tasks.
<table>
<thead>
<tr>
<th>Facilitator Behaviors</th>
<th>Member Impressions</th>
<th>Member Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>He/She:</strong></td>
<td><strong>He/She:</strong></td>
<td><strong>We:</strong></td>
</tr>
<tr>
<td>Shares relevant information</td>
<td>Is prepared</td>
<td>Will listen</td>
</tr>
<tr>
<td></td>
<td>Is well informed</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Is willing to share</td>
<td></td>
</tr>
<tr>
<td>Answers questions of common concern</td>
<td>Understands our situation</td>
<td>Can ask questions freely</td>
</tr>
<tr>
<td></td>
<td>Is considerate</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Is helpful</td>
<td></td>
</tr>
<tr>
<td>Clarifies behavioral expectations</td>
<td>Is responsible</td>
<td>Know our limits</td>
</tr>
<tr>
<td></td>
<td>Is firm, but fair</td>
<td>Know what is expected of us</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Know what to expect of him/her</td>
</tr>
<tr>
<td>Demonstrates alertness to details</td>
<td>Is competent</td>
<td>Will have to stick to the task</td>
</tr>
<tr>
<td></td>
<td>Keeps track of things</td>
<td></td>
</tr>
<tr>
<td>Demonstrates openness in communication</td>
<td>Trusts us</td>
<td>Can trust him/her</td>
</tr>
<tr>
<td></td>
<td>Is one of us</td>
<td></td>
</tr>
<tr>
<td>Demonstrates listening</td>
<td>Is openminded</td>
<td>Can freely share our ideas</td>
</tr>
<tr>
<td></td>
<td>Cares about us</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cares about our ideas</td>
<td></td>
</tr>
<tr>
<td>Solicits feedback</td>
<td>Wants to hear from all of us</td>
<td>Will get the opportunity to share our ideas</td>
</tr>
<tr>
<td>Demonstrates an understanding of group procedures</td>
<td>Can lead this group</td>
<td>Can concentrate on the task</td>
</tr>
<tr>
<td></td>
<td>Will help us complete the task</td>
<td></td>
</tr>
<tr>
<td>Centers responsibility to act upon the group</td>
<td>Means what he/she says</td>
<td>Better get started</td>
</tr>
<tr>
<td></td>
<td>Expects us to get started</td>
<td></td>
</tr>
</tbody>
</table>

Figure 2. Schema of potential effects of structuring on group members.

This concern can be measured according to the number and length of verbal statements made by members which are relevant to the tasks. High task relevancy, if exhibited, seems likely to expedite a group's completion of its tasks.
If either the social or task dimensions of group process are being neglected, it seems logical that a group's progress toward task completion would be sporadic. If Betz's technique for structuring task groups addresses both the task and social dimensions, groups utilizing it should make consistent progress toward task completion. A criterion for measuring such progress is the number of disruptions of the group process which occur in a group session. High disruptiveness, if exhibited, seems likely to impede a group in completing its assigned tasks.

Group interaction can be analyzed by focusing upon task relevancy and disruptiveness as distinct verbal behaviors. A third kind of verbalization in task groups is social talk, which serves an important group maintenance function; social talk is not task-relevant, nor is it disruptive. Task relevance and disruptiveness seem to be valid criteria for measuring the performances of functioning task groups.

For assessing a group's overall performance, some kind of quantitative and qualitative criteria related to the group outcome must be established. The amount of time elapsed in completing a task, solving a problem, or producing something seems to be an appropriate quantitative criterion. The comparable quality of group outcomes seems to be a suitable qualitative criterion of a group's performance.

Hypotheses to be Tested

\( H_1: \) Members of treatment groups will score higher on questions measuring satisfaction with their participation than will members of control groups.

\( H_2: \) Members of treatment groups will score higher on questions measuring satisfaction with group outcomes than will members of control groups.

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H₃: Task-relevant statements in treatment groups will be more frequent than in control groups.

H₄: Task-relevant statements in treatment groups will comprise a larger percentage of total task session time than in control groups.

H₅: The number of disruptions of the group process will be fewer in treatment groups than in control groups.

H₆: The total task session time will be less in treatment groups than in control groups.

H₇: The outcomes produced by treatment groups will be of higher quality than those produced by control groups.

Operational Definitions

Task-relevant statement.--Any verbal communication having a direct relationship to an immediate topic idea and moving the group toward task completion. Types of task-relevant statements are: (1) initiation of a topic idea in a non-disruptive manner; (2) information shared relevant to the topic idea; (3) rational reaction to, assessment, clarification, or elaboration of the topic idea; and (4) closure to move the group forward.

Disruption.--Any unwarranted verbal intrusion in the group process which impedes movement toward task completion. Types of disruption are: (1) verbal statements reflecting any of the individual-centered roles described by Benne and Sheats (1948); or (2) times when a facilitator loses control of the group, and so many people are talking at once that no one can be understood.

Social talk.--Interactions which lend to the development of a supportive, pleasant, and cohesive group climate or which fill in time while individual group members are working (e.g., chalking instructions
on the board or drafting a group report) will not be counted as task-relevant nor as disruptive.

**Total task session time.**—The amount of time elapsed from the introduction of a task to a group until that group has arrived at an outcome.

Chapter Summary

A promising group process technique has been developed, but it had not been tested under controlled conditions. Task group structuring, in field-based applications, has been strongly endorsed by group practitioners without supportive, verifiable data. The problem in this study was to determine whether or not and in what way the structuring technique impacts upon the performances of experimental task groups.

The importance of task groups to American organizations and the concern of managers and administrators with the performance of groups was briefly documented. The lack of research testing the opening minutes in the formation of task groups as a variable affecting group performance was noted. Research and theory has identified two dimensions--task and social--which account for major proportions of the variance in group performances. The structuring technique was tested for potential impact upon these dimensions.

The task group structuring technique is comprised of seven fundamental components. A review of field-based literature authored by successful group practitioners established that these seven components are commonly recognized as fundamental to task group process. In essence, the structuring technique functions as (1) a comprehensive orientation...
of members to their group situation and (2) a means for establishing a procedural structure for accomplishing a specific group charge. Experimental research provides a basis for predicting that task group structuring, appropriately applied in experimental task groups, is likely to enhance their overall performance.

Member satisfaction with participation and with group outcomes appears to be a suitable index for whether or not the structuring technique addresses the social dimension of group performance. Task relevancy and disruptiveness are performance criteria which can be computed by analyzing the verbal statements of group members made during the experimental task sessions. The amount of time used and the quality of the group outcomes appear to be appropriate indices for whether or not the structuring technique addresses the task dimension of group performance.

Premised upon the predictability of enhanced performances of task groups employing the structuring technique, and utilizing identified performance criteria, seven directional hypotheses have been formulated. Operational definitions of terms pertinent to these hypotheses were provided.
CHAPTER II

EXPERIMENTAL DESIGN AND METHODOLOGY

Introduction

The purpose of this study was to test a promising group process technique under controlled conditions. The experimental problem was to determine whether or not and in what way task group structuring impacts upon the performances of task groups. Treatment groups were those led by facilitators who attended a 2-1/2 hour training session on Betz's task-group structuring technique. Control groups were those led by facilitators attending a 2-1/2 hour placebo training session. This chapter describes the three distinct but overlapping phases--conception, instrumentation, and personnel--through which the researcher went in preparing for and conducting the experiment. This chapter concludes with a description of the statistical procedures used in analyzing the data.

Conception Phase

The posttest-only control group design (Campbell & Stanley, 1963) satisfies the experimental requirements of this study. The random assignment of student participants to groups and the random designation of facilitators in each group is "the most adequate all-purpose assurance of lack of initial biases between groups" (Campbell & Stanley, 1963, p. 25). This design permitted calculation of differences and similarities
between treatment and control groups by statistically testing the data which were generated in the experimental sessions. A major advantage of the posttest-only control group design is the elimination of the risk that a pretest might influence subject behaviors during the experiment or subject responses to a necessary posttest. There are factors of concern for the external validity of the study using this design, but no other existing experimental designs, even those more complex than this one, appear to assure better control over these factors (Campbell & Stanley, 1963, p. 8).

A series of basic research decisions were made in setting up the experiment. An experimental population was selected which comprised all students enrolled in three sections of a group procedures course offered by the Department of Counseling and Personnel at Western Michigan University during winter semester, 1977. These group procedures classes were selected as the source of experimental subjects for two reasons. First, the experiment could be logically and easily built into the course structure, serving both the purposes of the students and the instructors. In fact, the three instructors utilized the experimental task group sessions as a non-graded starting point for instructing their students in task group process. Second, subjects were sought whose ages more closely reflected the populations outside the university which might utilize the task-group structuring technique in an occupational setting than do the ages of undergraduate students. Due to absenteeism on the days of the experimental sessions, 62 students actually participated in the experiment out of 72 students enrolled. The mean age of the participants was 30.5 years; their median age was
28.3 years. There were 38 female and 24 male participants. Counseling and Personnel students numbered 52, and 10 participants were from other programs.

Small-group researchers generally avoid prescribing an all-purpose, ideal group size, recognizing that size is merely one variable in interaction with a complex array of other group variables. However, surveys of actual practices demonstrated that business committee membership averaged eight (Tillman, 1960), and business conferences typically had five to six participants (Kriesberg, 1950). To reflect these group practices in the experiment, it seemed preferable that the experimental groups number no fewer than five and no more than nine members. Since student absence was a noncontrollable factor, it was decided to randomly assign students within each class section to groups of seven to nine members for a total of nine experimental groups. Due to absences, actual membership during the experimental group sessions was 5, 5, 6, 7, 7, 7, 8, 8, and 9.

A decision was made regarding the means for recording the experimental task sessions. Video taping was rejected because of its greatly increased costs and technical complexity, combined with the fact that the planned interaction analysis of the experimental groups was not dependent upon visual or nonverbal cues. Audio taping proved to be sufficient for the purposes of this study by test-analyzing the interaction on task group tapes already on file.

A pre-experiment assumption was operating that task group structuring would positively impact upon a group's performance regardless of the nature of its tasks. This prompted a research decision to test this
assumption by assigning two distinct types of tasks to each experimental group. This decision led to another regarding the order in which the two tasks would be completed. It was decided that five treatment and control groups would deal with first one, then with the other type task, while the remaining four groups did the opposite. It was assumed that the task order would not significantly affect the overall group performances; the rotation of tasks made it possible to test that assumption experimentally.

Training of facilitators in task group structuring, versus the lack of it, was the crucial basis of comparison in this study. According to Betz (1974), a minimum of 2-1/2 hours is required to train personnel in the task group structuring technique. It was decided that a 2-1/2 hour training session for the five randomly designated treatment group facilitators would be conducted by a professional trainer. To offer the four control group facilitators a comparable group experience, it was decided that a placebo training session of similar duration would be conducted by the same trainer. Since these sessions had to be held outside of required class time, it was decided that the nine group facilitators would receive a small stipend, whether participating in the actual training or the placebo training.

Based upon practitioner endorsements of Betz's task-group structuring technique and pragmatically oriented group-process literature as well as related small-group research and theory, directional hypotheses were formulated for this study. The seven hypotheses predicted that the treatment groups led by facilitators trained in task group structuring would outperform the control groups. For statistically testing these
directional hypotheses, .025 was established as the experimental level of significance.

Instrumentation Phase

For gathering data to test hypotheses 1 and 2, an instrument measuring member satisfaction with both participation and the group outcomes had to be found or developed. Review of small-group research resulted in finding a member-satisfactions questionnaire (Ford, 1972), different versions of which had been used in several research studies. Correspondence with Ford produced three versions of the questionnaire which were used in developing the simple 8-question instrument (Appendix A) used for this study. It was decided that the experimental group members would respond to this instrument twice, following the completion of each assigned task.

The satisfactions instrument was designed to measure two aspects of group member satisfaction: (1) with participation and (2) with the group outcome. Questions 1 and 5, appearing to generate clear-cut expression of the degree of satisfaction with participation, served as the key questions for testing hypothesis 1. Questions 4 and 8, appearing to generate clear-cut expression of the degree of satisfaction with a group outcome, served as the key questions for testing hypothesis 2. The remaining four questions (2, 3, 6, and 7) merely served as corroborative indices of the degree of general satisfaction expressed by group members.

A crucial consideration for this study was the selection of tasks which were appropriate to both the experimental context and the subjects.
To check out the assumption that task group structuring ought to get similar results relative to the hypotheses posited regardless of the task type, two distinct types of tasks were utilized.

The nature of a group task is an important determinant in group functioning. Shaw (1976) acknowledged this, stressing that a "multitude of factors related to task environment influence group interaction, group effectiveness, and group products" (p. 334), while at the same time he lamented the "almost total lack of systematization of task-related information" (p. 308). Shaw presented several task typologies which stand as useful attempts to respond to this lack of systematization, but none of them are grounded upon a firm research base at this time.

A simple, triple classification system for differentiating group tasks which has been tested empirically turned up in the review of the literature. Research established that three task categories—production tasks, discussion tasks, and problem-solving tasks—account for significant amounts of variance in group interaction (Morris, 1966), group performance (Hackman, 1968), and group outcome (Kent & McGrath, 1969). Operationally defined in these three studies, production tasks call for a group to generate original, creative ideas or images; production tasks have also been termed "creativity tasks." Discussion tasks call upon a group for value judgments related to identified issues, usually requiring group consensus. Problem-solving tasks call upon a group for solutions to specific problems, usually within a stipulated set of constraints.

The logical simplicity of these three task categories and the impressive results of the research from these three studies on the nature of group tasks led to the decision that one of the experimental tasks
would be a discussion task; the other would be a problem-solving task. A production or creativity task seemed too hypothetical and less relevant than the others to the likely student and instructor expectations in the group procedures classes. The two tasks served not only as methods to test hypotheses 1 through 6, but they also served as instruments for generating the outcomes which were ranked for quality to test hypothesis 7.

In choosing a suitable discussion task, an issue with sufficient immediacy to motivate the majority of experimental subjects toward completing the task with some enthusiasm was needed. Advanced students in the Department of Counseling and Personnel, from which 84 percent of the subjects were drawn, identified an authentic issue concerning a counseling program requirement. A written task statement (Appendix B) directs the group to discuss this issue and develop a policy recommendation as the group outcome.

In choosing a suitable problem-solving task, a problem which simulated a situation with which the experimental subjects either had, or will have to, contend in their professional development was required. A realistic administrative problem (Stech, 1973) that had been utilized in previous group experiments was found. A written problem statement (Appendix C) with a particular set of constraints, directs the group to generate a preferred solution as the group outcome.

To record the data for testing hypotheses 3, 4, 5, and 6, an interaction analysis form (Appendix D) was developed. It was designed to allow trained judges to record the time of an entire task session, to count and cumulatively time the task-relevant statements, and to count
the number of disruptions occurring during each session. To generate and record the data for testing hypothesis 7, a simple "outcome quality rankings" form was developed for each task (Appendices E and F). This form enabled selected experts to rank-order, according to perceived quality, the nine group outcomes from either the discussion or the problem-solving task.

A supply of high-quality 90-minute cassette tapes was purchased to be used in recording the experimental group sessions. Demonstration tapes consisting of recorded segments of group interaction were produced in order to train the judges who had been employed to analyze the interaction occurring in the audio-taped group sessions. Wollensak 2550 cassette recorders were advance-tested in the experimental settings and used for recording the training and task sessions. Conference rooms with chalkboards were used for all sessions, with variations in physical setting kept at a minimum. The microphone was placed on the table, central to each group; the recorder was off to one side.

Personnel Phase

Permission to use a single class period (1 hour and 45 minutes) was secured from the three instructors of the group procedures course. Finalized lists of students enrolled in Saturday, Monday, and Tuesday class sections were used along with a table of random numbers (Kerlinger, 1973) to: (1) randomly assign students within each class section to a total of nine groups, each with seven to nine members; (2) randomly designate a facilitator within each group; and (3) randomly differentiate between treatment and control groups within each class section.
A professional trainer was selected to conduct the actual (treatment group) and placebo (control group) training sessions for the facilitators. This trainer had broad expertise in working with groups, plus previous experience training people in task group structuring. A minimal explanation of the training needs for the study was made to this trainer; he was left unaware of the research design, the hypotheses, and other aspects of the study.

Three women (ages 27, 27, and 28) with clerical backgrounds were recruited to serve as interaction analysis judges of the audio tapes recorded in the experimental task sessions. Another woman (age 27) with a counseling and research background was trained by the researcher in interaction analysis, and she served as trainer of the three judges. This made it possible for the researcher to avoid contact with the audio-tape judges from the time that they were recruited, at an agreed-upon wage, until they were paid for completing the interaction analyses of the nine experimental groups. The judges were directed to avoid contact with each other during the judging period. The interaction analyses provided the data for testing hypotheses 3, 4, 5, and 6.

A set of three professionals with expertise relevant to each experimental task were enlisted to individually rank-order the experimental outcomes according to perceived quality. Three tenured staff members for the Department of Counseling and Personnel, including the former department chairman, agreed to rank the policy recommendations generated by the groups in response to the discussion task. Three higher education administrators—a registrar, an assistant dean, and a department chairman—who have responsibility for making office assignments agreed to rank
the group outcomes from the problem-solving task.

Brief presentations were made to each participating class a week prior to the experimental task sessions. The research was described as generally involving task group process. Participants were informed that the sessions were to be recorded in accordance with the rules of confidentiality, that their participation was not going to be evaluated as part of the course grade, that one of their classmates would be serving as their group facilitator, and that a short questionnaire was to be filled out after completing each of the two group tasks.

There were three crucial steps to take in finalizing this personnel phase of the study. First, the randomly designated group facilitators were contacted by telephone to solicit their participation in either an actual or a placebo training session. Seven of the nine initial random choices were able to participate; two had scheduling conflicts, and each had to be replaced by another randomly designated facilitator. Second, the trainer of the audio-tape judges was trained in the interaction analysis strategy being utilized in the study; she then trained the judges, using the demonstration tapes which had been produced. Finally, the placebo and actual training sessions as well as the experimental task sessions were all conducted within a span of 6 days. On a Wednesday evening, the placebo training session was conducted with the four control group facilitators present. A neutral but stimulating group exercise based upon the Johari Window (Luft, 1970), an interpersonal awareness model, comprised the placebo training of the control group facilitators. On the next evening, Thursday, the actual task-group structuring training session was conducted with the five treatment-group facilitators present.
The training was comprised of a lecturette and discussion of the technique, a demonstration of task group structuring by the trainer, and practice of the technique by each trainee with the other facilitators acting as group members. Following the placebo and actual training sessions, the group facilitators were each given a packet containing an instruction sheet (Appendix G) and the two experimental task statements. The experimental group sessions were conducted on the following Saturday (four groups), Monday (three groups), and Tuesday (two groups).

Following these experimental sessions, the satisfactions instruments were coded and prepared for computer analysis. The audio tapes were screened for technical difficulties and distributed to the judges; all the tapes were usable, though two sides were nearly inaudible. The handwritten group outcomes were typewritten prior to turning them over to the experts for ranking. The completed interaction analysis forms received back from the audio-tape judges and the outcome quality rankings from the experts were coded for computer analysis of inter-judge reliability and the degree of agreement among each set of experts.

Statistical Procedures

The crucial basis of comparison in this study was whether or not significant predicted differences existed between the treatment and control groups. In testing seven research hypotheses at the .025 level of significance, there were three sources of data—satisfactions instruments filled out by group members, interaction analysis forms completed by audio-tape judges, and experts' rankings of the group outcomes. Each data source required a distinct set of statistical procedures.
The satisfactions instruments, with 60 out of 62 participants responding, comprised the data base for testing hypotheses 1 and 2. Prior to testing whether or not significant differences in the degree of expressed satisfaction existed between treatment- and control-group members overall, three preliminary questions had to be answered: (1) Did significant differences exist between any of the experimental groups? (2) Did the class section from which the groups were drawn (Saturday, Monday, or Tuesday) account for significant differences in the degree of expressed satisfaction? and (3) Did the order in which the tasks were completed account for significant differences in the degree of expressed satisfaction?

The 8-question satisfactions instrument was filled out twice by group members, after both the discussion and the problem-solving tasks. A one-way analysis of variance among the nine experimental group means for each question was computed to determine whether or not differences existed at the .025 level of significance. It was established that significant differences did exist in the degree of expressed satisfaction.

To determine whether or not the class sections from which the groups were drawn accounted for significant differences in the degree of expressed satisfaction, a one-way analysis of variance between class sections was computed. Differences in the time of day, the day of the week, or the class instructor might have had measurable effect upon group member responses. No significant differences in the degree of expressed satisfaction were found to exist between class sections on any of the eight questions from either the discussion or the problem-solving tasks.
Interval data were derived from the group member responses to the satisfactions instrument. For comparing means, the two-sample $t$ test is the most powerful test of differences available, if certain assumptions underlying its use are met. One crucial assumption is that the means to be compared are independent. In this study, the design assured the independence of means by having the groups in virtual isolation during the experimental sessions in which the satisfactions instruments were first seen and filled out by different subjects. The second assumption is that of equal variance in the samples to be compared. Having equal numbers of sample subjects is the best assurance of equal variance; in this study, the number of subjects, though not equal, were judged not to be severely divergent by a consulting statistician. Additionally, the standard deviations and variances computed on the responses to the satisfactions instrument represented a relatively homogeneous range for each of the questions. Normal distribution of means is a third assumption underlying the use of the two-sample $t$ test, and a check of the computations showed that the individual scores for each question on the instrument were fairly evenly distributed around the group means. Beyond that, "violation of the assumption of normality has been shown to have only trivial effects on the level of significance and the power of the test and hence should be no cause for concern" (Glass & Stanley, 1960, p. 297). With due alertness to the underlying assumptions, when two sample means from the satisfactions instrument were to be compared, use of the $t$ test seemed justified.

To determine whether or not the order of task completion accounted for significant differences in the degree of expressed satisfaction,
the t test was utilized. The means of group member responses in each task order were compared on each of the eight questions for both tasks. Significant differences were found on four of the eight questions responded to by group members after completing the problem-solving task. This established that there had been a significant task order effect upon the degree of satisfaction expressed by group members.

Discovery of this task order effect suggested the appropriateness of testing for differences between treatment- and control-group member responses within each task order. Three treatment and two control groups completed the discussion task first; two treatment and two control groups completed the problem-solving task first. The t test was utilized in comparing the means of treatment- and control-group member responses to each question on the satisfactions instrument. Differences between treatment- and control-group member responses were analyzed for those groups who had completed (1) the discussion task first, (2) the problem-solving task second, (3) the discussion task second, and (4) the problem-solving task first. Based upon these four analyses, hypotheses 1 and 2 were tested for differences in the degree of expressed satisfaction on key questions pertaining either to participation or to the group outcome.

The interaction analysis forms comprised the data base for testing hypotheses 3, 4, 5, and 6. An index for inter-judge reliability was established by computing Pearson product-moment correlations between the observations made by the three audio-tape judges who analyzed the experimental group interaction. Table 1 cites the inter-judge correlations on each of the specified interaction variables for both tasks.
Table 1

Inter-Judge Correlations of Observed Interaction Variables

<table>
<thead>
<tr>
<th>Discussion Task</th>
<th>Variable Observed</th>
<th>Problem-Solving Task</th>
</tr>
</thead>
<tbody>
<tr>
<td>.91 .90 .95</td>
<td>Number of task-relevant statements (TRS)</td>
<td>.99 .97 .99</td>
</tr>
<tr>
<td>.98 .97 .96</td>
<td>Percentage of task-relevant time (PER)</td>
<td>.89 .89 .91</td>
</tr>
<tr>
<td>.54 -.28 -.05</td>
<td>Disruptions (DISR)</td>
<td>.91 .67 .77</td>
</tr>
<tr>
<td>.999 .998 .998</td>
<td>Total task session time (TTT)</td>
<td>.999 .999 .999</td>
</tr>
</tbody>
</table>

With three of these four interaction variables, the inter-judge correlations were consistently high, lending confidence that the judges had perceived the variables similarly. However, with the disruptions variable, the correlations were quite low, particularly on the discussion task, raising questions about the reliability of the disruptions data for statistically testing hypothesis 5.

In testing these four observed interaction variables, the one-way repeated measurements design (Winer, 1971, pp. 261-267) was utilized to compute differences between treatment and control groups nested by class section and task order, as well as overall. The same three judges had analyzed the interaction of both the treatment and the control groups, rendering their observations nonindependent. The one-way repeated measurements design is appropriate for comparing nonindependent means and assures that "variability due to differences in the average responsiveness of the participants [i.e., the judges] is eliminated from the experimental error" (Winer, 1971, p. 261). This design served as the statistical test of hypotheses 3, 4, 5, and 6 at the .025 level of
significance.

The outcome quality rankings by the experts comprised the data base for testing hypothesis 7. An index for the degree of agreement among the experts was established by computing Spearman \( \rho \) correlations between their rankings of the discussion and problem-solving task outcomes. Inter-expert correlations for the discussion task were .87, .45, and .48, with a .60 average. Inter-expert correlations for the problem-solving task outcomes were .32, .32, and .30, with a .31 average. These low correlations, particularly on the problem-solving task, indicated substantial disagreement among the experts as to the quality of the experimental group outcomes.

This relative lack of agreement among the experts decreased the likelihood of detecting differences that might have existed between treatment and control groups. In summarizing findings from numerous studies, Hare (1962) concluded that "not only does statistical pooling of opinion tend to increase the accuracy and reliability of the estimate, but it also appears to produce judgments as accurate as those made by the same individuals when they actually arrive at a group judgment" (p. 361). It seemed justifiable, in this light, to pool the rankings from each set of experts and subject those rankings to the Mann Whitney \( U \) test for differences in rank (Siegel, 1956, pp. 116-121) between treatment and control groups.

Chapter Summary

This chapter describes the conception, instrumentation, and personnel phases through which the researcher went, in preparing for and
conducting this study. The conception phase involved the basic research decisions which shaped the experimental design of this study. The instrumentation phase involved the selection or development of the satisfactions instrument, two experimental tasks, data-gathering forms, and technical equipment necessary for carrying out the experimental design. The personnel phase involved contacting the course instructors and student participants, hiring audio-tape judges and a professional trainer, enlisting two sets of experts to rank the task outcomes, training an interaction analysis trainer, plus monitoring and recording the actual and placebo as well as the experimental group sessions.

Chapter II closes with a description of the statistical procedures used in analyzing the data obtained from the satisfactions instrument, the interaction analysis forms, and the outcome quality ranking forms for testing seven directional research hypotheses. Indices of inter-judge reliability and inter-expert agreement were established using correlational methods. Preliminary analysis involved the use of one-way analysis of variance and \( t \) tests. For determining differences between treatment and control groups, the \( t \) test, the repeated measurements design, and the Mann Whitney \( U \) were the tests of significance applied at the .025 level.
CHAPTER III

RESULTS OF STATISTICAL ANALYSIS

Introduction

This study was designed to measure the impact of a specific technique—task group structuring—upon the performances of experimental task groups under controlled conditions. The investigation focused upon distinct group performance variables in comparing five treatment groups led by facilitators trained to use the technique with four control groups led by facilitators lacking that training. All groups were responsible for completing both a discussion task and a problem-solving task; five groups completed the discussion task first, and four groups completed the problem-solving task first. Seven directional research hypotheses have been statistically tested at the .025 level of significance; this chapter reports the results of those tests.

Findings for Hypotheses 1 and 2

Preliminary statistical analysis of group member responses to eight questions on the satisfactions instrument (Appendix A) had established not only that significant differences between groups existed, but also that a significant interaction effect had occurred between the order of tasks completed and the degree of expressed satisfaction. The order with which the discussion and problem-solving tasks were completed had measurable impact upon the degree of satisfaction expressed by group
members with their participation as well as with the group outcomes. The t-test for differences between the mean responses of treatment and control group members was computed on each of the eight questions for both tasks within each task order.

The t-test results from the key questions (numbers 1 and 5 for hypothesis 1; numbers 4 and 8 for hypothesis 2) determined the support or lack of it for accepting either hypothesis. In order to interpret the results as supportive of either hypothesis 1 or 2, at least one of the key questions had to reflect predicted differences at the .025 level of significance with the other signaling at least a strong trend (less than .10 probability). Additionally, the t-test results from corroborative questions (numbers 2, 3, 6, and 7) were checked for consistency with the results from those key questions.

Hypothesis 1

\[ H_1: \text{Members of treatment groups will score higher on questions measuring satisfaction with their participation than will members of control groups.} \]

Table 2 indicates that significant differences in expressed satisfaction with participation existed as predicted among group members completing the discussion task first and the problem-solving task second. The corroborative questions in this task order reflected similar results with highly significant differences or at least strong trends as predicted. In the opposite task order there were no significant differences between treatment- and control-group member responses, although there were some trends contrary to prediction. The corroborative questions also reflected mixed, inconclusive results with some contrary
Table 2

t-Test Results on Mean Differences between Treatment- and Control-Group
Member Satisfaction with Participation

<table>
<thead>
<tr>
<th>Group</th>
<th>Discussion Task</th>
<th>Completed First</th>
<th>Completed Second</th>
<th>Problem-Solving Task</th>
<th>Completed Second</th>
<th>Completed First</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>N</td>
<td>M</td>
<td>SD</td>
<td>df</td>
<td>t</td>
</tr>
<tr>
<td><strong>Question 1:</strong> How much did you enjoy working with your group?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treatment</td>
<td></td>
<td>19</td>
<td>6.526</td>
<td>.697</td>
<td>32</td>
<td>2.517</td>
</tr>
<tr>
<td>Control</td>
<td></td>
<td>15</td>
<td>5.600</td>
<td>1.404</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td><strong>Question 5:</strong> How satisfied are you with the way in which the group decision was reached?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treatment</td>
<td></td>
<td>19</td>
<td>6.579</td>
<td>.607</td>
<td>32</td>
<td>3.787</td>
</tr>
<tr>
<td>Control</td>
<td></td>
<td>15</td>
<td>5.000</td>
<td>1.690</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td><strong>Question 1:</strong> How much did you enjoy working with your group?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treatment</td>
<td></td>
<td>19</td>
<td>6.474</td>
<td>.513</td>
<td>31</td>
<td>1.951</td>
</tr>
<tr>
<td>Control</td>
<td></td>
<td>14</td>
<td>6.000</td>
<td>.877</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td><strong>Question 5:</strong> How satisfied are you with the way in which the group decision was reached?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treatment</td>
<td></td>
<td>19</td>
<td>5.895</td>
<td>1.410</td>
<td>31</td>
<td>2.058</td>
</tr>
<tr>
<td>Control</td>
<td></td>
<td>14</td>
<td>4.857</td>
<td>1.460</td>
<td>15</td>
<td></td>
</tr>
</tbody>
</table>

*Strong trend (less than .10, one-tailed probability).

**Significant difference (less than .025, one-tailed probability).
trends. The significant results among group members completing the discussion task first and the problem-solving task second seemed to offer partial support for accepting hypothesis 1.

**Hypothesis 2**

\[ H_2: \] Members of treatment groups will score higher on questions measuring satisfaction with group outcomes than will members of control groups.

Table 3 indicates that significant differences in expressed satisfaction with group outcomes existed as predicted among group members completing the discussion task first and the problem-solving task second. The corroborative questions in this task order reflected similar differences and trends as predicted. In the opposite task order there were no significant differences between treatment and control group members, although there were slight to strong trends in the predicted direction. The corroborative questions yielded nonsignificant, mixed results. The significant results in one task order and the trends in the other task order seemed to offer partial support for accepting hypothesis 2.

It was interesting to note from Table 3 that the lowest mean levels of satisfaction with an outcome for both treatment and control groups were expressed by the groups completing the problem-solving task second.

**Findings for Hypotheses 3, 4, 5, and 6**

Observations recorded by three audio-tape judges on the interaction analysis forms (Appendix D) comprised the data base for testing these four research hypotheses at the .025 level of significance. Hypothesis 3
Table 3

*t-Test Results on Mean Differences between Treatment- and Control-Group Member Satisfaction with Group Outcomes

<table>
<thead>
<tr>
<th>Group</th>
<th>Completed First</th>
<th>Completed Second</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>M</td>
</tr>
<tr>
<td><strong>Discussion Task</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Question 4:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How satisfied are you with the decision reached by your group?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>15</td>
<td>5.600</td>
</tr>
<tr>
<td><strong>Question 8:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>What was the quality of the decision reached by your group?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treatment</td>
<td>19</td>
<td>6.632</td>
</tr>
<tr>
<td>Control</td>
<td>15</td>
<td>6.067</td>
</tr>
<tr>
<td><strong>Problem-Solving Task</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Question 4:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How satisfied are you with the decision reached by your group?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treatment</td>
<td>19</td>
<td>5.895</td>
</tr>
<tr>
<td>Control</td>
<td>14</td>
<td>5.357</td>
</tr>
<tr>
<td><strong>Question 8:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>What was the quality of the decision reached by your group?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treatment</td>
<td>19</td>
<td>5.895</td>
</tr>
<tr>
<td>Control</td>
<td>14</td>
<td>4.929</td>
</tr>
</tbody>
</table>

*Strong trend (less than .10, one-tailed probability).

**Significant difference (less than .025, one-tailed probability).
treated the variable concerning the number of task-relevant statements (TRS). Hypothesis 4 treated the variable concerning the percentage of total task session time which was task-relevant (PER). Hypothesis 5 treated the variable concerning the number of disruptions of the group process (DISR). Hypothesis 6 treated the variable concerning total task session time in minutes (TTT). The one-way repeated measurements design was utilized to eliminate any error factor between the three judges in testing these variables, producing F ratios and probabilities.

**Hypothesis 3**

\[ H_3: \text{Task-relevant statements in treatment groups will be more frequent than in control groups.} \]

Table 4 indicates that the overall results in comparing treatment and control groups on the number of task-relevant statements (TRS) generated were contradictory. For the discussion task, the difference was large and highly significant in a direction contrary to prediction. For the problem-solving task, the difference was significant, though not very large, in the direction predicted. When comparing the treatment and control groups within each task order, it was found that in only one of those four comparisons did the treatment groups generate more TRS's than the control groups. The results generated by the groups completing the problem-solving task second were discrepant. The overall results seem to point toward the rejection of hypothesis 3.

**Hypothesis 4**

\[ H_4: \text{Task-relevant statements in treatment groups will comprise a larger percentage of total task session time than in control groups.} \]
Table 4
Analysis of Mean Differences between Treatment and Control Groups in Number of Task-Relevant Statements (TRS)

<table>
<thead>
<tr>
<th>Group</th>
<th>Discussion Task</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>M</td>
<td>SD</td>
<td>df</td>
<td>F</td>
<td>p</td>
</tr>
<tr>
<td>Overall</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treatment</td>
<td>5</td>
<td>174.4</td>
<td>33.2</td>
<td>1,16</td>
<td>82.72</td>
<td>.000^</td>
</tr>
<tr>
<td>Control</td>
<td>4</td>
<td>229.5</td>
<td>44.8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>By task order</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treatment</td>
<td>3</td>
<td>177.4</td>
<td>22.2</td>
<td>1,16</td>
<td>22.51</td>
<td>.002^</td>
</tr>
<tr>
<td>Control</td>
<td>2</td>
<td>217.8</td>
<td>24.2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treatment</td>
<td>5</td>
<td>165.3</td>
<td>64.9</td>
<td>1,16</td>
<td>18.30</td>
<td>.004*</td>
</tr>
<tr>
<td>Control</td>
<td>4</td>
<td>150.6</td>
<td>57.3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>By task order</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treatment</td>
<td>3</td>
<td>188.4</td>
<td>48.3</td>
<td>1,16</td>
<td>296.60</td>
<td>.000*</td>
</tr>
<tr>
<td>Control</td>
<td>2</td>
<td>108.0</td>
<td>28.9</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

^Significant difference contrary to prediction.

*Significant difference as predicted.
Table 5 indicates that the overall results in comparing treatment and control groups in the percentage of total task session time which was task-relevant (PER) were highly significant in the predicted direction for both the discussion and problem-solving tasks. When comparing the PER's of treatment and control groups within each task order, the results were consistent in all four comparisons. These results conclusively point toward the acceptance of hypothesis 4.

The lowest PER recorded for treatment and control groups occurred with the groups completing the problem-solving task second. It was interesting to note that the discussion task tended to generate a higher PER for all groups than did the problem-solving task. It was also interesting to note that when the discussion task was assigned first, it generated a higher PER than when it was assigned second; when the problem-solving task was assigned first, it generated a higher PER than when it was assigned second.

Hypothesis 5

H₅: The number of disruptions of the group process will be fewer in treatment groups than in control groups.

Table 6 indicates that the overall results in comparing treatment and control groups in the number of disruptions recorded (DISR) were consistently in the predicted direction. For the discussion task, the results were significant. However, considering the extremely low correlations (an average of .07) among the judges on DISR's for the discussion task sessions, this finding must be interpreted cautiously. For the problem-solving task, the results showed strong, though
Table 5
Analysis of Mean Differences between Treatment and Control Groups in Percentage of Task-Relevant Time (PER)

<table>
<thead>
<tr>
<th>Group</th>
<th>Discussion Task</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th>Problem-Solving Task</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>M</td>
<td>SD</td>
<td>df</td>
<td>F</td>
<td>p</td>
</tr>
<tr>
<td>Overall</td>
<td>5</td>
<td>94.07</td>
<td>5.13</td>
<td>1,16</td>
<td>169.57</td>
<td>.000*</td>
</tr>
<tr>
<td>Treatment</td>
<td>3</td>
<td>95.77</td>
<td>3.68</td>
<td>1,16</td>
<td>46.18</td>
<td>.000*</td>
</tr>
<tr>
<td>Control</td>
<td>2</td>
<td>89.92</td>
<td>3.64</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>By task order</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Completed First)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treatment</td>
<td>3</td>
<td>84.11</td>
<td>3.32</td>
<td>1,16</td>
<td>48.68</td>
<td>.000*</td>
</tr>
<tr>
<td>Control</td>
<td>2</td>
<td>75.13</td>
<td>4.49</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Completed Second)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Significant difference as predicted.
Table 6
Analysis of Mean Differences between Treatment and Control Groups in Number of Disruptions (DISR)

<table>
<thead>
<tr>
<th>Group</th>
<th>Discussion Task</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
</tr>
<tr>
<td>Overall</td>
<td></td>
</tr>
<tr>
<td>Treatment</td>
<td>5</td>
</tr>
<tr>
<td>Control</td>
<td>4</td>
</tr>
<tr>
<td>By task order</td>
<td></td>
</tr>
<tr>
<td>Treatment</td>
<td>3</td>
</tr>
<tr>
<td>Control</td>
<td>2</td>
</tr>
<tr>
<td>Problem-Solving Task</td>
<td></td>
</tr>
<tr>
<td>Overall</td>
<td></td>
</tr>
<tr>
<td>Treatment</td>
<td>5</td>
</tr>
<tr>
<td>Control</td>
<td>4</td>
</tr>
<tr>
<td>By task order</td>
<td></td>
</tr>
<tr>
<td>Treatment</td>
<td>3</td>
</tr>
<tr>
<td>Control</td>
<td>2</td>
</tr>
</tbody>
</table>

*Strong trend as predicted.

**Significant difference as predicted.
nonsignificant, trends in the predicted direction. The higher correlations (an average of .68) among the judges on DISR's for the problem-solving task sessions suggest that this finding represented an appropriate test of hypothesis 5. The combined results from the discussion and problem-solving task sessions seemed to offer slight support for accepting hypothesis 5.

It was interesting to note that discrepant results again showed up among the groups completing the problem-solving task second. Both the treatment and control groups who completed the problem-solving task second were reported to be the most disruptive among all comparisons. It was also interesting to note that the discussion task generated roughly the same degree of DISR regardless of task order, whereas the problem-solving task generated a strongly contrasting degree of DISR within each task order.

Hypothesis 6

$H_6$: The total task session time will be less in treatment groups than in control groups.

Table 7 indicates that the overall results in comparing treatment and control groups on their total task session time in minutes (TTT) appeared to be contradictory. The extremely high correlations (an average of .999) among the audio-tape judges who recorded TTT resulted in even small differences being statistically significant. With the problem-solving task, a difference of approximately 2.2 minutes was statistically significant in a direction contrary to prediction. When comparing treatment and control groups within each task order, it was
Table 7
Analysis of Mean Differences between Treatment and Control Groups of Total Task Session Time in Minutes (TTT)

<table>
<thead>
<tr>
<th>Group</th>
<th>Discussion Task</th>
<th>Problem-Solving Task</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>M</td>
</tr>
<tr>
<td>Overall</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treatment</td>
<td>5</td>
<td>38.96</td>
</tr>
<tr>
<td>Control</td>
<td>4</td>
<td>52.31</td>
</tr>
<tr>
<td>By task order (Completed First)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treatment</td>
<td>3</td>
<td>39.87</td>
</tr>
<tr>
<td>Control</td>
<td>2</td>
<td>53.86</td>
</tr>
<tr>
<td>By task order (Completed Second)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treatment</td>
<td>3</td>
<td>29.01</td>
</tr>
<tr>
<td>Control</td>
<td>2</td>
<td>18.80</td>
</tr>
</tbody>
</table>

*Significant difference as predicted.

CSignificant difference contrary to prediction.

---

52
found that in three of the four comparisons the treatment groups had significantly shorter TTT than did the control groups. The discrepant result again involved the groups completing the problem-solving task second. Viewed overall, Table 7 seems to offer partial support for accepting hypothesis 6.

Findings for Hypothesis 7

H7: The outcomes produced by treatment groups will be of higher quality than those produced by control groups.

The judgments recorded by each set of three experts on the outcome quality ranking forms (Appendices E and F) comprised the ordinal data base for testing hypothesis 7. With relatively low correlations among the experts (.60 average on the discussion task; .31 average on the problem-solving task), the rankings were pooled and subjected to the Mann Whitney U test for differences in rank between the treatment and control groups. The small number of groups within each task order made it unfeasible to test these data by task order.

The test results were nonsignificant and mixed. The rankings of the group outcomes from the discussion task produced a U score of 8 and a probability of .365, with a slight trend as predicted. The rankings of the group outcomes from the problem-solving task produced a U score of 6 and a probability of .206, with a slight trend contrary to prediction. The overall results were inconclusive, pointing toward the rejection of hypothesis 7.
Chapter Summary

This chapter outlines the results of the statistical procedures applied to the experimental data generated in order to test seven research hypotheses at the .025 level of significance. Hypotheses 1 and 2 treated two aspects of group member satisfaction: with participation and with outcome, respectively. Results of the t tests for the groups completing the discussion task first and the problem-solving task second were significant as predicted. For the groups completing the problem-solving task first and the discussion task second, the results were nonsignificant and mixed. Overall, there seemed to be partial support for hypotheses 1 and 2.

Hypothesis 3 treated the number of task-relevant statements (TRS) with three of the four comparisons by task order showing differences contrary to prediction. The results pointed toward the rejection of hypothesis 3.

Hypothesis 4 treated the percentage of total task time which was task-relevant (PER) with the results conclusively pointing toward acceptance of this hypothesis. Interesting differences were noted between the discussion and problem-solving task results as well as between the orders of task completion.

Hypothesis 5 treated the number of disruptions of the group process (DISR). For the discussion task, the results were significant as predicted, although the inter-judge correlations were extremely low (.07 average). For the problem-solving task, the results were nonsignificant with trends as predicted, and the inter-judge correlations
were fairly strong (.68 average). The overall results offered slight support for hypothesis 5.

Hypothesis 6 treated the total task session time in minutes (TTT), with three of the four comparisons showing significant differences as predicted. These results offered partial support for accepting hypothesis 6.

As shown in Tables 3, 4, 5, 6, and 7, the groups completing the problem-solving task second generated results which were noticeably discrepant from the other comparisons. This persistent discrepancy pointed toward an interaction effect between the nature of the tasks and the order of task completion.

Hypothesis 7 treated the comparable quality of treatment and control group outcomes from both tasks. The results of the Mann Whitney U tests were nonsignificant, pointing toward the rejection of hypothesis 7.
INTRODUCTION

This chapter includes a review of the purpose for this study and the procedures utilized to accomplish it, a summary of findings, and a lengthy discussion of those findings. The chapter closes with recommendations for further research as well as to group practitioners.

REVIEW OF PURPOSE AND PROCEDURES

The purpose of this study was to test a promising technique--task group structuring--under controlled conditions. Task group structuring has identifiable components and is applied by a group facilitator during the opening minutes in the formation of a task group. Small-group theory and research has established that in most groups there is both a social and a task dimension. Based upon practitioner endorsements of the technique, as well as a review of field-based and theoretical literature and small-group research, seven research hypotheses were formulated. Five of these hypotheses addressed the task dimension and predicted that treatment groups led by facilitators trained in task group structuring would outperform control groups led by nontrained facilitators. The other two hypotheses addressed the social dimension and predicted that treatment group members would express greater satisfaction than would control group members.
Nine experimental groups were randomly formed from three group procedures classes. Five randomly selected facilitators were trained in task group structuring; four were exposed to an interpersonal awareness model. Each group completed a discussion and a problem-solving task in two differing orders of assignment. Group members responded to a satisfactions instrument after each task. Three audio-tape judges analyzed the group interaction and reported their observations. Sets of three experts ranked, according to perceived quality, the group outcomes from each of the tasks. Appropriate statistical analyses were computed on these data, and the results were reported in Chapter III of this study.

Summary of the Findings

Hypotheses 1 and 2 were designed to assess the social dimension of the experimental groups as impacted upon by the facilitators trained in task group structuring compared to the nontrained facilitators. The social dimension was reflected in the degree of satisfaction expressed by individual group members with their participation (hypothesis 1) and with each task group outcome (hypothesis 2).

As had been predicted, treatment group members completing the discussion task first and the problem-solving task second expressed significantly higher levels of satisfaction with their participation on both tasks than did the control group members in that task order. However, with the task order reversed, there were no significant differences between treatment and control group members, and there were some trends contrary to prediction.

Treatment group members completing the discussion task first and
the problem-solving task second also expressed significantly higher levels of satisfaction with the outcomes from both tasks than did the control group members in that task order. Again, with the task order reversed, there were no significant differences between treatment and control group members, although the trends were in the predicted direction.

These mixed results point toward three findings pertinent to hypotheses 1 and 2. First, members of groups led by facilitators trained in task group structuring who completed the discussion task first and the problem-solving task second expressed higher levels of satisfaction with participation and with outcomes than did members of groups led by non-trained facilitators. Second, the order in which different tasks were completed by the groups affected the levels of satisfaction expressed by group members regarding those tasks. Third, the pattern of responses to the satisfactions instrument following the completion of a first task recurred when those same group members completed a second task, regardless of the task order. When the results were significant as predicted from the group members completing the discussion task first, the same pattern recurred when they completed the problem-solving task second. When the results were nonsignificant from the group completing the problem-solving task first, that pattern recurred when they completed the discussion task second. Both hypotheses 1 and 2 were partially supported. The lowest mean levels of expressed satisfaction with a group outcome occurred among those group members completing the problem-solving task second.

Hypotheses 3, 4, 5, 6, and 7 were designed to assess the task
dimension of the experimental groups as impacted upon by the facilitators trained in task group structuring compared to the nontrained facilitators. The task dimension was reflected in the following variables: number of task-relevant statements (TRS), percentage of total task time which was task-relevant (PER), number of disruptions of the group process (DISR), the amount of time used to complete each task (TTT), and the perceived quality of each group outcome.

Regarding hypothesis 3, the results recorded in Table 4 show significant differences between treatment and control groups contrary to prediction in three of the four comparisons by task order. The basic finding pertaining to hypothesis 3 was that TRS's were not more frequent in groups led by facilitators trained in task group structuring than in groups led by nontrained facilitators. The hypothesis was rejected. It was noted that the discrepant comparison, which did show significant differences as predicted, involved those groups completing the problem-solving task second.

Regarding hypothesis 4, the results recorded in Table 5 show significant differences between treatment and control groups as predicted in all four comparisons as well as overall. The basic finding pertaining to hypothesis 4 was that groups led by facilitators trained in task group structuring predictably generated a higher percentage of total task time which was task-relevant than did groups led by nontrained facilitators. The hypothesis was confirmed. It was also noted that the groups completing the problem-solving task second were judged to have the lowest PER, that the discussion task tended to generate a higher PER in all comparisons than did the problem-solving task, and that both
tasks, when completed first, generated a higher PER than when they were completed second.

Regarding hypothesis 5, the results recorded in Table 6 show consistent trends as predicted in all four comparisons by task order. Overall differences on the discussion task were significant, despite extremely low correlations between the judges. Overall differences on the problem-solving task showed a strong trend, with fairly high correlations between the judges. These results point toward two findings pertaining to hypothesis 5. First, the groups led by facilitators trained in task group structuring seemed to be predictably less disruptive than the groups led by nontrained facilitators. Second, based upon the low correlations between them, the judges seem to have had difficulty assessing the disruptiveness variable, particularly on the discussion task. The hypothesis was partially supported. It was also noted that the groups completing the problem-solving task second generated the highest DISR among the four comparisons.

Regarding hypothesis 6, the results recorded in Table 7 show significant differences between treatment and control groups as predicted on three of the four comparisons by task order. The basic finding pertaining to hypothesis 6 was that groups led by facilitators trained in task group structuring completed their tasks in less time under certain conditions than did groups led by nontrained facilitators. The hypothesis was partially supported. It was once again noted that the discrepant comparison involved those groups completing the problem-solving task second.

Regarding hypothesis 7, the results show no significant differences
between treatment and control groups. The basic finding pertaining to hypothesis 7 was that according to individual experts the groups led by facilitators trained in task group structuring did not produce higher quality outcomes than the groups led by nontrained facilitators. The hypothesis was rejected.

Discussion of the Findings

There were basic findings pertinent to each hypothesis formulated in this study. Some of these findings were predicted and flowed logically from the experimental design; other findings were unanticipated and warrant explanation where possible, and conjecture when necessary. The three findings pertaining to hypotheses 1 and 2 regarding members expressing satisfaction with their group experience were interrelated. The training of three group facilitators in task group structuring was demonstrated to have predictably positive effect upon the members who completed the discussion task first and the problem-solving task second. However, the training of the other two treatment group facilitators did not result in expressions of higher satisfaction by treatment group members than by control group members when the task order was reversed. It seems reasonable to state that under certain conditions the use of task group structuring will significantly raise the levels of satisfaction expressed by group members, thus enhancing the social dimension of a task group.

This discussion will probe for the conditions under which such enhancement did occur. The order in which the two tasks were completed seemed to be a significant determinant in whether or not task group
structuring impacted as predicted upon the levels of satisfaction expressed. The pattern of responses to the satisfactions instrument following the completion of a first task recurred when those same group members completed a second task, regardless of which task was first. By implication, the attitudes shaped in completing a first task are likely to carry over to subsequent tasks.

To initiate a task group climate which would be most satisfying to its group members, a facilitator must have sufficient knowledge about the nature of the tasks to be completed and their likely impact upon the group in order to establish an optimum task order. This study supports the view that the nature and effects of tasks in a group context have not been systematically researched (Shaw, 1976, p. 334) and introduces the issue of possible task order effects upon group performance. Hackman (1968) stated that "the problem . . . is that small group researchers have used tasks to study groups but have not used groups to study tasks" (p. 163). Hackman further stated that "a real possibility exists that the results of a study may be seriously confounded with unintended task effects" (p. 183). An apparent task effect in interaction with the order of assignment has partially confounded the results in this study. This possible task order effect seemed based upon the differences between the two tasks used in this experiment.

One condition which may be prerequisite to effective task group structuring in raising levels of member satisfaction is attentiveness by a facilitator to the task order most likely to promote a satisfying group climate. It is possible that, once enough is known about task effects, task order will be recognized as an additional component of
the task-group structuring technique to be considered by group facilitators.

Hypothesis 3 predicted that groups led by facilitators trained in task group structuring would generate more task-relevant statements than would the control groups. Contrary results occurred, pointing toward the rejection of the hypothesis; groups led by nontrained facilitators generated significantly higher TRS's than did the treatment groups in three of the four comparisons. Explanation of these contrary results would have been difficult or impossible without relating this finding to the results on total task time which pertain to hypothesis 6. In each comparison where TTT was shorter for the treatment groups than for the control groups, TRS was less frequent. In the discrepant comparison where TTT was longer for the treatment groups than for the control groups, TRS was more frequent. Thus, it was found that TRS as a variable related more closely to the amount of time used to complete a task than it did to the training status of the facilitators.

Numerous statements about an assigned task do not necessarily assure that a group makes progress toward task completion. Fewer statements which are not only task-relevant, but which also foster progress toward task completion, would be preferred. It turns out that the number of task-relevant statements by itself was not an appropriate group performance criterion. An index which takes into account the quality as well as the average length of task-relevant statements would be more appropriate than was this raw count method.

Hypothesis 4 focused on an index of task relevancy which took into account the cumulative time of all task-relevant statements divided by
total task session time, producing a percentage for each group. The treatment groups generated higher PER than did the control groups in all comparisons, offering evidence that a treatment effect had occurred as predicted. In relating this finding to the results pertaining to hypothesis 6, an inverse correlation between PER and TTT showed up on three of the four comparisons by task order; the higher the level of PER observed, the less time was used for completing the task. However, the results on the discrepant comparisons reported for PER and TTT indicated that the treatment groups, despite a higher PER, took a longer time than did the control groups in completing the problem-solving task second. Other effects seem to have acted upon the treatment groups completing the problem-solving task second which cancelled out their higher PER. As an index of task relevancy, PER seems to be useful, though not infallible, as a measure of group performance.

Although in all comparisons the treatment groups generated a higher PER than did the control groups, the levels of PER varied between comparisons according to the different tasks as well as the order in which they were completed. The discussion task, regardless of order, elicited higher PER from both treatment and control groups than did the problem-solving task. This implied that task differences had set in motion a task effect which influenced PER; the groups seemed to concentrate more on the discussion task than on the problem-solving task. Also, each task when first completed elicited a higher PER than when it was completed second. This implied that the groups tended to concentrate more on a task when it was first than when it was second, setting in motion an order effect which also influenced PER. To support these implications,
the PER's recorded in the four comparisons were highest for the groups completing the discussion task first, next highest for the groups completing the discussion task second, lower for the groups completing the problem-solving task first, and lowest for the groups completing the problem-solving task second. The same groups which had generated the highest PER subsequently generated the lowest PER.

Briefly, then, the results pertaining to hypothesis 4 on PER illustrated three experimental effects: a treatment effect which had been predicted, a task effect which had been anticipated, and an order effect which was unanticipated. The task and order effects seem to have interacted, strongly influencing the groups completing the problem-solving task second.

Hypothesis 5 predicted that the groups led by facilitators trained in task group structuring would have fewer disruptions than the control groups. Despite low correlations between the judges recording DISR, consistent differences as predicted offered guarded support for the hypothesis. The treatment and control groups completing the problem-solving task second were judged to be the most disruptive, reinforcing the possibility that a task order effect had strongly influenced the groups in this consistently discrepant comparison.

The high degree of variability between the judges on the DISR variable is difficult to account for. It is possible that the operational definition of a disruption (p. 21) was unclear to the judges. Disruptions were defined dually as verbal statements by individuals reflecting identified negative behaviors and as general group breakdowns reflecting a facilitator's loss of control over the group process.
Individual intrusion into the group process rightly constitutes a disruption; a general breakdown of the group process more accurately constitutes a dysfunction. A tighter definition might have enabled the judges to report DISR with higher correlations than they did.

It is also possible that a lapse in training occurred between the researcher and the trainer or between the trainer and the judges. Instructionally, the interaction analysis training dealt with disruptiveness as the final step in a lengthy analytical process. Feedback from the judges via the trainer during the audio-tape judging suggested that fatigue may have been a factor in the between judge variability. Two of the three judges did not record a single disruption on several of the tapes that they analyzed, partially accounting for the disparate correlations between the judges on that variable. It is not known if those judges misconstrued the definition of disruption or if they simply neglected to count disruptions which did occur.

Hypothesis 6 predicted that the groups led by facilitators trained in task group structuring would complete their tasks in less time than would the control groups. In what had become a familiar pattern, three of the four comparisons resulted in differences as predicted between treatment and control groups. The discrepant comparison again involved the groups completing the problem-solving task second, lending more support to the possibility that a task order effect had profoundly influenced the results in that one comparison.

The discrepant comparison involving the four groups completing the problem-solving task second warranted particular attention. It seemed that there were three possible explanations for this consistent
discrepancy: (1) the other three comparisons were experimentally faulty, while this discrepant comparison was the correct one; (2) by chance, one or more of the groups which made up the discrepant comparison were aberrant; or (3) the task differences and order differences interacted, producing a task order effect which had measurable impact upon the groups in the discrepant comparison.

There was scant evidence that this first possibility existed. The data on TRS showed that the treatment groups in the discrepant comparison generated more TRS than did the control groups, as had been predicted. However, the finding that TRS related more closely to TTT than to the training status of the group facilitators countered the likelihood that the discrepant comparison was the correct one. This possibility was undercut even further by the fact that differences in the other three comparisons were statistically significant as predicted on the PER, DISR, and TTT variables. It did not seem likely that the discrepant comparison could be explained by asserting that it was the correct one.

There was also some evidence that one or more of the groups which made up the discrepant comparison may have been aberrant. One of the two treatment group facilitators in this comparison was a quiet, demure female. Her group members were all male, except for another female who was not in the Counseling and Personnel program. This female member was quite assertive; during the problem-solving task session, she became a vocal minority of one, generating a sizable number of disruptions recorded by all three judges. With the exception of this female member, the entire group including the facilitator had agreed upon an outcome to the problem. Unsuccessful attempts to achieve group consensus
resulted in the group taking 9.9 minutes longer than the second longest time and 19.1 minutes longer than the average time for all groups to complete the problem-solving task.

One of the control groups in the discrepant comparison had taken the longest time of all nine experimental groups to complete the discussion task. When this group began working on the problem-solving task second, the group members verbalized their concern about the lateness in the day and rushed through the task, completing it in a shorter time than any other group, some 17.5 minutes faster than the average time for all nine groups. It can be seen that within the discrepant comparison a treatment group took an inordinately long time to complete the problem-solving task, while a control group took an inordinately short time. The recorded obstinancy of one treatment group member and the collective preoccupation with time by a control group's members combined to account at least partially for the results in the discrepant comparison.

Consistently discrepant results generated by the groups completing the problem-solving task second have been well documented. Some basis for those discrepancies appeared to lie in the aberrance of two groups within that comparison, but differences between the two experimental tasks, when analyzed in relation to their order of completion, also offer a plausible explanation of the discrepant results.

A discussion task is by nature a high involvement task (Hackman, 1968). Involvement is an excellent means for generating and maintaining a high level of interest among the participants. This particular discussion task was real; it had direct relevance to a large majority (84 percent) of the experimental subjects. Group members knew that the
discussion task outcome was to be sent on to the academic department where it would have potential impact.

A problem-solving task is by nature a high action task (Hackman, 1968). Such action requires both a high level of motivation and energy in order to achieve a successful outcome with efficiency. This particular problem-solving task was hypothetical; it had no direct relevance to any of the experimental subjects. Group members knew that the problem-solving task served no purpose other than as an exercise.

From the standpoint of most of the participants, the discussion task presented them with an opportunity for meaningful input to their academic department regarding a controversial program requirement. The problem-solving task presented them with a hypothetical and largely irrelevant challenge.

Without regard for either the order of task completion or the treatment/control distinction, there were obviously different results emerging out of the discussion and problem-solving task sessions. As shown in Table 8, the discussion task took nearly double the amount of time to complete on the average compared to the problem-solving task. Yet, according to the PER recorded, the groups working on the discussion task stuck more closely to the task, despite the longer time required, than they did in working on the problem-solving task. The discussion task seems to have commanded a higher degree of interest and effort than did the problem-solving task. Consistent with this, while the groups were working on the problem-solving task they were nearly twice as disruptive in almost half the time as they were while working on the discussion task. The data seem to support the premise that the
discussion task elicited greater interest and concentration on the part of the participants than did the problem-solving task.

Table 8

Means on Selected Variables from Nine Experimental Groups for Two Tasks

<table>
<thead>
<tr>
<th>Discussion Task Variable</th>
<th>Problem-Solving Task</th>
</tr>
</thead>
<tbody>
<tr>
<td>PER (Percentage of TTT which was task-relevant)</td>
<td>90.53</td>
</tr>
<tr>
<td>DISR (Number of disruptions)</td>
<td>8.74</td>
</tr>
<tr>
<td>TTT (Total task session time in minutes)</td>
<td>48.89</td>
</tr>
</tbody>
</table>

aDisregarding task order and treatment/control distinctions.

Additionally, based upon observations by the researcher, all the experimental group members exhibited a high degree of interest and eagerness at the beginning of their first task session. Whether completing the discussion or the problem-solving task first, the group members expressed high levels of satisfaction and were reported as generating high PER and low DISR; these results tend to bear out the researcher's observations. The data and the observations support the premise that all the experimental groups were highly interested and enthusiastic during their first task session, regardless of the task.

Between the treatment and control groups by task order, there were four comparisons: groups completing the discussion task first, groups completing the problem-solving task first, groups completing the
discussion task second, and groups completing the problem-solving task second. It has been shown that the discussion task required nearly double the time for completion that the problem-solving task did. It has been shown that the discussion task seemed to elicit greater interest and concentration from the participants than did the problem-solving task. It has been suggested that all the groups started out with high interest and eagerness. The consistently discrepant comparison involved those groups completing the problem-solving task second, suggesting that the shift from the first to the second task influenced those second-task comparisons differently.

Those groups completing the problem-solving task first turned from a hypothetical task which had not required a long time to a real, relevant task requiring much more time. These groups completing the discussion task second expressed levels of satisfaction as high as they had on their first task, and generated even higher PER during this lengthy second task. No letdown occurred on the part of the groups in this comparison; there may even have been an uplift as they turned to the discussion task.

The groups completing the discussion task first turned from a real, relevant task which had required a large expenditure of time and energy to a hypothetical task which called for a high degree of action and energy. While completing the discussion task first, these groups generated the highest PER of all the comparisons. While completing the problem-solving task second, they generated the lowest PER of all the comparisons. The levels of interest and energy exhibited during the discussion task session were absent during the problem-solving task.

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Briefly, then, the consistently discrepant comparison which involved the groups completing the problem-solving task second seemed to be attributable to two factors. First, within this comparison there was some aberrance on the part of two groups which at least partially turned the results in a direction contrary to prediction. Second, a task order effect, centered on the shift from the real, relevant discussion task to the hypothetical problem-solving task, seemed to provoke a reaction or letdown on the part of the groups in that comparison. These factors combined to elicit from the groups completing the problem-solving task second the lowest levels of satisfaction expressed, as well as to generate the lowest PER and the highest DISR. The treatment effect showed up as predicted, despite the significant decreases in PER and increases in DISR. On the TTT variable, the two factors cancelled out the treatment effect, producing a result contrary to prediction in the discrepant comparison.

Hypothesis 7 had been designed to assess a very crucial performance variable—the quality of the group outcomes—predicting that the treatment groups would produce significantly higher quality outcomes than did the control groups. Identified experts individually ranked the outcomes with little agreement between themselves as to the relative quality of those outcomes. Pooled rankings tested for differences between treatment and control groups yielded nonsignificant results. There were too few groups to allow for analysis of the rankings by task order.

In setting up the experiment, it had been assumed that the expertise of the identified experts would vastly outweigh the capabilities of the
student participants and that the experts would be in general agreement on the relative quality of the outcomes. This assumption was faulty and contrary to research on groups versus individuals dealing with complex problems. Watson (1928) found that "the product of group thinking is distinctly superior to that of the average and even the best member of the group. In this case it is further above the best than the best is above the average" (p. 336). Shaw (1932) found that "groups seem assured of a much larger proportion of correct solutions than individuals do. . . . This seems to be due to the rejection of incorrect suggestions and the checking of errors in the group" (p. 504).

In this study, the experts ranking the outcomes to the problem-solving task were asked to solve the problem for themselves and then to rank the experimental outcomes accordingly. Two of the three experts submitted their individual solutions with their rankings. Neither solution resembled the other; one of them had violated the first constraint listed in the problem statement, thereby representing a solution which was inferior to most of the experimental group solutions. No criticism of these individual experts is intended; they simply lacked the advantages of working together in a group while solving a complex problem.

One possible remedy to the low levels of agreement would have been to request the experts to work together in completing the tasks and ranking the group outcomes. Another remedy might have been to enlist a larger number of experts and average the results of their rankings. The first remedy would be experimentally preferable, but difficult to schedule; the second remedy would be more feasible, but might merely compound the correlational variability of the rankings.
At this point, commentary about the potency of the task-group structuring technique seems warranted. The treatment variable in this study was solely dependent upon a single 2-1/2 hour training session conducted for five randomly designated students who served as group facilitators. Built into the experimental design with little choice was an array of intervening variables with numerous possibilities for interaction which might have obliterated patterns and confounded the tests for differences between the groups.

A population drawn from three class sections may have differed significantly due to differences in class instructors, times of day, or days of the week. Chance personality differences between facilitators, group members, or audio-tape judges could have skewed the experimental results. The settings in which the task sessions took place might have had some effect. The task and order effects have been discussed in detail. Despite all these intervening variables, the overall experimental results indicated as predicted that task group structuring had significantly impacted upon the treatment groups, with some exceptions which have been noted.

In concluding this discussion of the findings, attention should be given to aspects of the study which raised questions about generalizing the results of this study to populations in other occupational and group contexts. The population in this study was unique, being comprised of mostly counseling graduate students who are inclined toward a high degree of confidence in group process and acceptance of others, with more of a people orientation than a task orientation, and a humanistic outlook. In many other contexts, this outlook is not so strong nor commonly shared.
Task orientation, production, or profits would be the dominant concerns in more than a few populations in the field. Task group structuring may be as potent with groups from such a population, but this study offers no direct evidence of that.

In this study, especially when analyzing the data generated by the experimental groups with regard to task order, the analysis involved very small numbers of treatment and control groups. These small numbers made the overall group means susceptible to aberrance occurring by chance and could have skewed the results, rendering the experiment meaningless. A larger number of experimental groups, had the size of the population allowed for them, would have strengthened this study.

Random selection of group facilitators is not a norm in field-based organizations. In practice, group facilitators or leaders tend to be designated by status, expertise, or experience. The laboratory artifice of random selection is not transferrable to field-based practices, and it raises a question about generalizing the findings from this study. In order to minimize the possibility of initial biases among the facilitators, random selection was necessary for the experimental design, but it made it impossible to account for the relative leadership skills of the other participants. If randomly designated students with a single, short training session were able to positively influence their groups' performances, it seems possible that acknowledged, organizational leaders might benefit as much or even more. However, there is no evidence in this study that they would. It does seem likely that organizations which utilize groups for dealing with complex problems or controversial issues would benefit from training group participants in task group
Recommendations for Further Research

This study discloses the need for further research in at least three areas: further testing of task group structuring, the nature of tasks and their effects upon groups, and the attention span of groups. Potentially these areas overlap, but it would be recommended that any projected studies not focus upon more than one of them. The probability of unanticipated interaction effects between variables is increased if the experimental focus is split.

Task group structuring as a technique should be further tested under a variety of conditions, preferably in a field-based context rather than a laboratory context. The duration of training is a crucial question to be studied. Comparisons between groups led by facilitators with no training, 2-1/2 hours of training, and 1 or 2 days of workshop-style training would be valuable. In this area of training, it would be worthwhile testing for whether or not periodic refresher sessions in task group structuring were necessary or useful for facilitators to continue applying the technique effectively. Questions also arise as to whether or not training should be for facilitators only or include group members as well. A series of short, simple studies involving a larger number of groups than did this study, completing a single task, would illuminate the task-group structuring technique free from a task order effect.

Some aspects of the research design used in this study could be improved upon in future studies. Other indices of task relevancy and
verbal efficiency should be developed and tested. The number of task-relevant statements (TRS) was not an adequate group performance criterion, but had it been coupled with some sort of qualitative criterion, it might have been useful. A look should be taken at the disruptiveness variable. There is a distinction between individual members impeding the group's progress and general breakdowns due to a facilitator's loss of control over the group process. Individual disruptions could be enumerated and analyzed separately from general dysfunctions. A facilitator trained in task group structuring might have the skills to prevent dysfunctions, but could perhaps only minimize the disruptiveness of unruly members. The quality of group outcomes is a crucial group performance variable. All the other performance variables mean little, if the outcomes are poor. It is recommended that group outcomes be judged for quality by qualified experts in a group context.

The need for further research in the whole area of task types and task effects upon groups has been indicated in small-group literature and reconfirmed by this study. Studies assessing differences in motivation or efforts expended by groups working on abstract versus specific, realistic versus hypothetical, and various other kinds of tasks would be worthwhile. Not nearly enough is known about tasks to make suggestions with much confidence as to the order in which tasks ought to be assigned to groups. Systematic study of task and order effects would equip group practitioners with criteria for forming and carrying out an agenda without making unrealistic or counterproductive demands of group members. Knowledge of task and order effects may also have major implications for curriculum development and classroom instruction.
Research probing for an optimum attention span of task groups under various conditions would be very useful. What are the trade-offs between short, frequent meetings focused on a single issue or task and occasional marathon meetings? Would task group structuring enhance group performance in either or both of these types of meetings? With how many tasks and in what order can a group be expected to cope productively? Do time and motion studies in industry have much or any value to human services, managerial, or lay-citizen groups?

Recommendations for Group Practitioners

Based upon the findings in this study, several recommendations to group practitioners can be made. A 2-1/2 hour training session conducted by a person highly skilled in the technique is the bare minimum for introducing potential facilitators to task group structuring. Had not the professional trainer in this study been extremely well trained and skillful with groups, it is possible that no measurable treatment effect would have shown up in this study. For groups and organizations interested in task group structuring, it is recommended that they think in terms of a 1- or 2-day workshop/seminar, staffed by a person well trained and experienced in the technique. Consideration should be given also to a refresher session after a realistic trial period.

The effectiveness of the technique in this study, when applied by randomly selected student facilitators, suggests that facilitation can be done by anyone who is equipped to address both the social and task dimensions in a group. The recommendation implicit from this is that all the people who will be working in groups, if feasible, be trained...
in the task-group structuring technique, rather than merely those designated as leaders.

In this study, the technique seemed to work particularly well for the groups on the discussion task which was relevant to the members, genuine in nature, and allowed for a sense of ownership in the outcome produced. Many managers and administrators must resolve, on a group basis, issues which are similar to that posed in this discussion task. It is recommended that persons responsible for leading discussion groups be trained in the task-group structuring technique.

Some indication has been given of the crucial role that task awareness can play in forming a group agenda. It is recommended that group practitioners be alert to existing and new research on the nature and effects of different kinds of tasks; that they experiment with variations in agenda while assessing the impact on motivation, interest, and energy output by group members; and that they consider letting task group members have some say about the agenda and task order.
REFERENCES


Loomis, J. L. Communication, the development of trust, and cooperative behavior. *Human Relations*, 1959, 12, 305-315.


Raven, B. H., & Rietsema, J. The effects of varied clarity of group goal and group path upon the individual and his relation to the group. Human Relations, 1957, 10, 29-45.


Tomasekovic, T. Level of knowledge of requirements as a motivational factor in the work situation. Human Relations, 1962, 15, 197-216.


INSTRUCTIONS: Indicate by circling one number the way you feel about these questions as pertaining to the task which your group has just completed.

1. How much did you enjoy working with your group?
   Not at all 1 2 3 4 5 6 7 Very much

2. How would you feel if told that your group did not do a good job?
   No bother at all 1 2 3 4 5 6 7 Very disappointed

3. Do you feel that the group session was an effective way to complete the assigned task?
   Very ineffective 1 2 3 4 5 6 7 Very effective

4. How satisfied are you with the decision reached by your group?
   Very dissatisfied 1 2 3 4 5 6 7 Very satisfied

5. How satisfied are you with the way in which the group decision was reached?
   Very dissatisfied 1 2 3 4 5 6 7 Very satisfied

6. How much negative frustration did you feel during the work on this decision?
   A great deal 1 2 3 4 5 6 7 Very little

7. To what extent were your ideas valued by the group?
   Not at all 1 2 3 4 5 6 7 Very much

8. What was the quality of the decision made by your group?
   Very poor 1 2 3 4 5 6 7 Excellent

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APPENDIX B
THE DISCUSSION TASK

Issue for Discussion

In the Department of Counseling and Personnel, one of the program requirements for beginning master level students is that they attend at least five personal counseling sessions as a client. The students have a choice in trained counselors from among those at the Western Michigan University Counseling Center, with the departmental staff, or in the field if advance approval is secured. Taken seriously by both students and counselors, these sessions would result in greater self-awareness personally and professionally for the participants than without the experience.

The issue is that few students or counselors are taking this requirement seriously; it has become a game or empty exercise for many students and counselors. Some of the counselors feel that their time should be given to "real" clients, or that the "artificiality" of the requirement is inhibiting. Some of the students, as aspiring counselors, do not believe they need or would benefit from counseling; others object to the compulsory nature of the requirement. A question arises as to whether or not these attitudes are making a general mockery of the requirement, rendering it meaningless or even counterproductive as a part of the program.

As a group of concerned students, develop a policy recommendation regarding this requirement which will be passed on to the graduate student representatives in the counseling and personnel department.
You are entirely free in the direction you take in formulating this recommendation. Your recommendation should be accompanied by a brief rationale and/or outline for implementing it. The members of your group who are not in the counseling program will be able to offer alternative viewpoints that will strengthen the overall group recommendation.
THE PROBLEM-SOLVING TASK

Problem Statement

The research and development section of a company is located in an office building. There are 14 single offices and 4 larger double offices on the floor plus a central office area. A diagram is attached for your information. There are 21 people in the organization:

Manager -- 14 years with company
Asst. manager -- 2 " " "
Mr. French -- 12 " " "
Ms. Price -- 12 " " "
Mrs. Watkins -- 7 " " "
Mr. Hansen -- 5 " " "
Mr. Pohloski -- 5 " " "
Ms. Francisco -- 3 " " "
Mr. Beedlow -- 3 " " "
Dr. Fielding -- 10 " " "(tech. mgr.)
Mrs. Cannaris -- 2 " " "
Mr. Girard -- 5 " " "
Dr. Yost -- 6 " " "
Miss Rocco -- 17 " " "
Mr. Guter -- 7 " " "
Mr. Franklin -- 4 " " "(transfer in)
Mr. Chin -- New employee
Ms. Roberts -- New employee
Mr. Jones -- 7 years with company
Ms. Caccinelli -- Secretary
Mrs. Work -- Secretary

Space allocation, including office and room assignments, is a common recurrent problem in public service agencies, schools, and clinics. As a group of prospective staff members, decide upon a best solution to this problem within the limits established, taking a managerial viewpoint.

The following limits exist on the problem:
-- Dr. Fielding, Dr. Yost, Mr. Girard, and Mrs. Cannaris must have single offices due to the nature of their work and security requirements.

-- The assistant manager should have an office near the manager.

-- Mr. Jones has come in and complained to the manager about having to share a double office with Beedlow. Jones wants a single office.

-- The two new employees need to work with an experienced employee for at least a year, but they do not have to work in the same office.

-- Mr. Franklin, who is transferring in, has been tabbed by the executives of the company as a man on the rise, a likely top executive in the future. He probably will have to be treated carefully while in this section of the organization.

-- Any changes should minimize the number of people who shift offices.

-- The staff has also requested that a larger conference room be provided. The existing conference room seats only six and then is rather crowded.
Office Assignments Prior to Resolution

Developed by: Dr. E. L. Stech, Western Michigan University, Communication Arts and Sciences
Note: Write only into spaces where a change has occurred.
### OUTCOME QUALITY RANKINGS

Group Policy Recommendations from the Discussion Task

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## OUTCOME QUALITY RANKINGS

Group Solutions to the Problem-Solving Task

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APPENDIX G
To the Facilitator for Task Group ____:

Enclosed are the two tasks which the group that you are to lead will be expected to complete. Please bring this packet to your next group procedures class period. The task marked I is to be dealt with first by your group. Then a short questionnaire is to be filled out by everyone, including yourself, before going on to task II. After completing the second task, an identical questionnaire must be filled out before thanking the group members for their participation and dismissing them.

The names of classmates slated to serve as members of your group are:

Unless the need arises to make any adjustments due to absenteeism or other factors, this will be your group.

At the beginning of your next class session, you will be given the room location in which the task sessions are to be conducted. Audio-tape equipment will be placed there so that the entire two sessions can be recorded for later interaction analysis.

Thank you for your cooperation in this study.