STRATEGIES FOR IMPROVING PROBLEM SOLVING, HUMAN GROUP PROCESSES AND RELATED TRAINING

Volume IV : Synectics Problem-Solving Handbook

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PURPOSE

The purpose of this Handbook is to supplement the content of the Synectics Trainer Manual. Each section is to be adapted for lectures and as course handouts.

The mode of presentation is left to the discretion of individual Synectics Inc. and Abraxas staff members because of variations in trainer style.

CONTENT

The content of the Handbook comprises :

* Existing Synectics theory and practice;
* Synectics case studies;
* Research outside Synectics Inc. and Abraxas Management Research;
* New ideas on Synectics practice;
* Aston Study (1974 - 1976).

The approach is eclectic as much of the U.K. and U.S.A. Synectics material is amalgamated.

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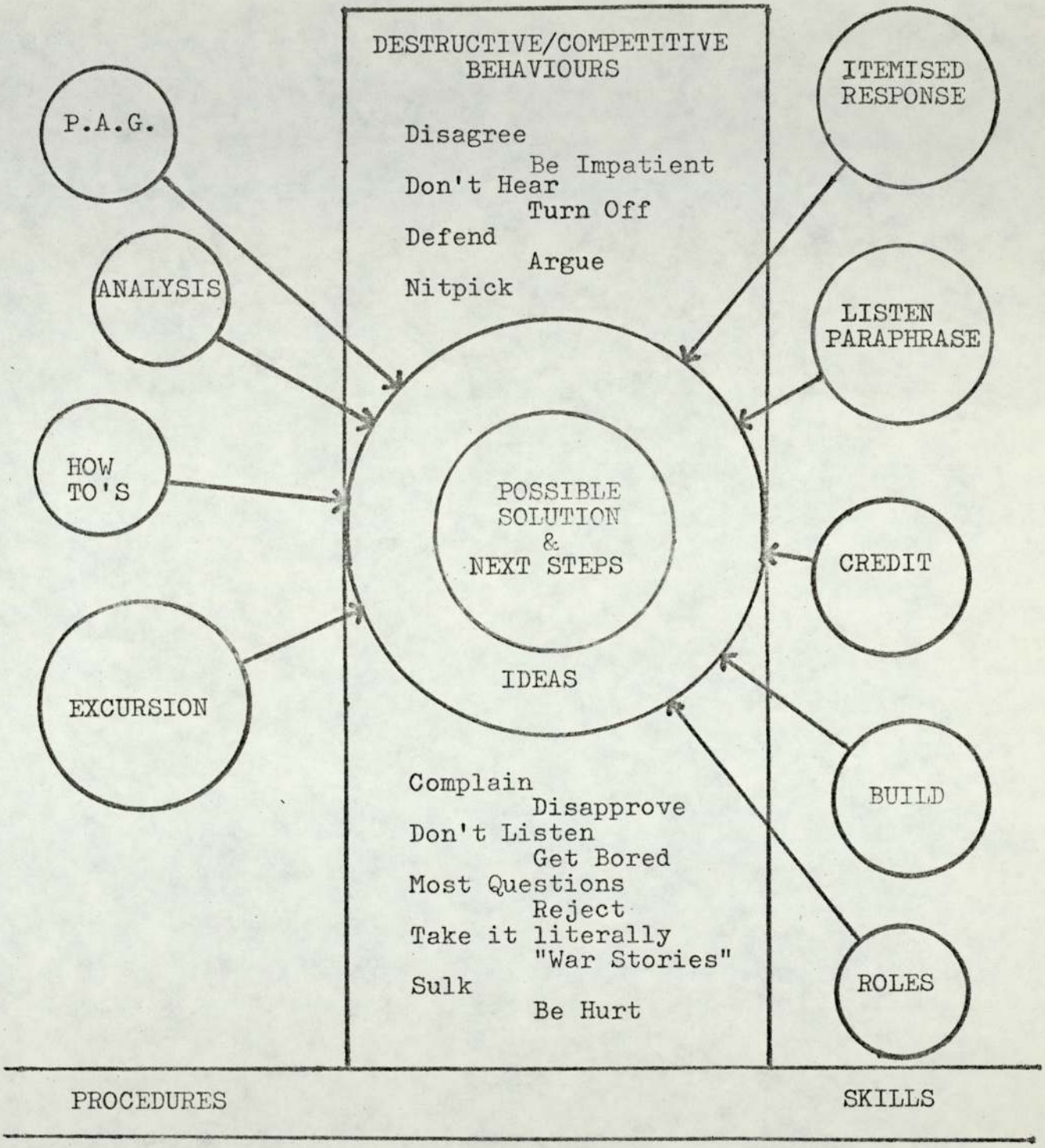
ANATOMY OF TEAMWORK



ASSUMPTIONS

One factor in the implicit structuring of a problem is the attribution of 'tacit assumptions' or rules to the problem.

Assumptions may inhibit effective problem solving. Comments like "They way to do it is....." and "Of course, the only solution to the problem is....." have the underlying assumption that there is only one correct method of doing something. This type of assumption is often erroneous.

An example of how tacit assumptions may inhibit successful problem solving is the '9 dot problem'.

P.A.G. To draw four straight lines without letting one's pencil leave the paper in such a way as to pass through each dot.

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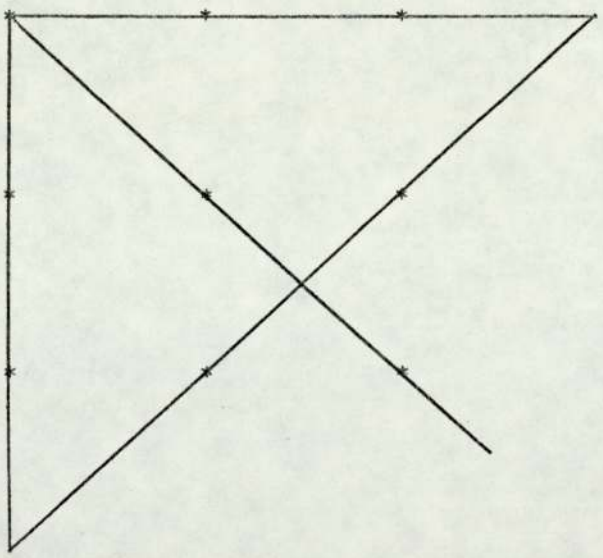
Trial and error often leads to many failures on this problem. The common error is that all the attempts fall within the boundary of the square defined by the 9 dots.

However, this restriction of the lines to the area bounded by the dots is not given in the rules of the problem. This restriction is a 'tacit assumption' by the problem solver. He reduces his freedom to act by imposing artificial boundaries.

The problem may be solved when this tacit assumption is set aside :

Possible Solution -



Useful Assumptions

Assume value in

i) all ideas;

ii) an individual's work;

iii) an individual.

Conclusions

1. Not only is it important to suspend premature evaluation in effective problem solving, it is equally important to make explicit and check out assumptions.

2. Beware of over-defining problems. Defining problems has the advantage of reducing them to manageable proportions; but over-defining them by imposing restrictive boundaries (real or psychological) means that one may miss the key to a solution.

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Reference :

H. Gough : 'Imagination - Undeveloped Resources'. Proceedings of the First Conference, Research Developments in Personnel Management, California University; June 7-8th, 1956.

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ASTON STUDY (1974-1976) U.K. STUDY

OBJECTIVES

Aston University, in conjunction with Abraxas, carried out research into Synectics training. The objectives of the research were :

i) to identify the styles (patterns of behaviour) of the Leader, Client and Participant roles;

ii) to develop role strategies on the basis of the identified role styles.

MEASURES

Two research instruments were developed to identify the Synectics problem-solving styles :

i) Videotape Analysis Form (T.A.F.). This is a highly developed form of the Split-Sheet Itemised Response note-taking format. It was used to identify the Leader and Client (control roles) styles by detailed analysis of videotape recordings of Synectics problem-solving sessions.

ii) Synectics Q-Sort Questionnaire (S.Q.S.Q.). This consists of 50 statements about being a Participant (resource role) in a Synectics problem-solving session.

98 Synectics sessions were used to collect data for T.A.F. 39 S.Q.S.Q.s were completed by individuals who participated in these sessions.

RESULTS ·

Using factor, content and process analysis, 10 styles were identified for the 3 Synectics roles.

1. LEADER STYLES

For the Leader role 3 styles were found. The common feature of the 3 styles is the location of control.

i) Full-Control Style. The Leader tends to

* adhere strictly to the Synectics Problem-Solving Scheme;
* make very explicit the transitions between the steps of the process;
* repeat often the same prompts, for example, during the How To Statement generation procedure;
* explain what will be happening next in the session;
* never become involved in the content of the session;
* not omit any stages of the process;
* have most (if not all) of the communication channelled through him.

ii) Shared-Control Style. The Leader tends to

* use flexibly the Synectics Problem-Solving Scheme;
* make the transitions between the process steps quickly and not necessarily explicit;
* often vary his prompts;
* allow Brainstorming-type procedures within the session;
* enter explicitly the content of the session : for example, he may Paraphrase an idea to help the Client's understanding;
* omit steps of a procedure;
* share control of the communication channels with the Client.

iii) Absent-Control Style. The Leader tends to

* maintain a low profile within the session;
* allow the Client and Participants to make their own process transitions;
* generally not to use prompts;
* allow the Client and Participants to use process as they wish;
* never make the steps of the process explicit;
* have very little of the communication channelled through him.

No optimum leadership style was found. Rather, each style has advantages and disadvantages for the productivity of Synectics sessions.

Style	Advantages	Disadvantages
Full-Control	Process control is predictable and psychologically 'safe'.	Process control may be over-rigid at times, with the Participants becoming listless and feeling over-constrained.
Shared-Control	Leader and Client have a wider range of procedural options to select from.	Requires additional knowledge of and skill in problem-solving procedures.
Absent-Control	Group members have an infinite number of procedural options to select from. Leader is able to concentrate upon administrative procedures.	Lack of formal process control may be a potential source of confusion for the Client and Participants, who are required to have a detailed knowledge of Synectics methods.

2. CLIENT STYLES

For the Client role 2 styles were found. The common feature of the two styles is the clarity of content control.

i) Explicit Style. The Client tends to

* point a clear direction for problem solving;
* use extensively the skill of Headlining;
* make clear decisions regarding direction;
* be explicit in his wishes;
* express precisely what he wants from the session.

ii) Ambivalent Style. The Client tends to

* be vague about the problem-solving direction he wishes to pursue;
* ramble, for example, during the Analysis and Mini-Analysis;
* give a great deal of information;
* "Yes but...." ideas - fail to give full Itemised Responses to Participants' ideas;
* be unclear in what he wants from the session.

No optimum style was found. Again each style has advantages and disadvantages for the productivity of Synectics sessions.

Style	Advantages	Disadvantages
Ambivalent	Participants have great freedom to generate How To Statements and ideas.	Lack of content clarity may lead to uncertainty and bewilderment for the Leader and Participants.
Explicit	Participants are able to readily direct their How To Statements and ideas towards specific goals.	Client may inhibit speculation and novelty because his problem and goals are over-defined.

3. PARTICIPANT STYLES

For the Participant role 5 distinct styles were found.

i) Research-Oriented Style. This Participant tends to
* request a great deal of information before being able to participate actively in the session;
* offer ideas as information;
* ensure that he understands most/all aspects of the problem before volunteering How To Statements and ideas;
* become actively involved in the session where he has a great deal of knowledge of the problem area under consideration; and 'withdraw' from the session where he has little knowledge of the problem area;
* suspend judgement and avoid preconceptions until he has the 'full facts'.

Overall, this Participant tends to investigate fully the problem before attempting to resolve it. He is seen by the other members of the Synectics group as conscientious and knowledgeable.

ii) Divergent Style. This Participant tends to
* offer a wide range of How To Statements and ideas;
* enjoy exploring and developing different approaches to resolving the problem;
* be able to change rapidly direction in problem solving;
* be more active in the earlier part of the session, for example, during the generation of How To Statements;

* be free of any particular bias or prejudice towards other Participants' ideas;

Overall, this Participant tends to have an exploratory problem-solving style. He is seen by the other members of the Synectics group as open-minded.

iii) Systematic Style. This Participant tends to
* be methodical in his approach to resolving the problem;
* prefer to 'define correctly' the problem and its constraints before attempting to resolve it;
* develop ideas and How To Statements in a logical manner;
* offer very precise and detailed ideas;
* become more actively involved during the latter part of the session where the objective is to refine ideas into possible solutions;
* be thorough in his examination of the problem area.

Overall, this Participant tends to be very precise and orderly in his problem-solving approach. He is seen by the other members of the Synectics group as analytical.

iv) Energetic Style. This Participant tends to
* react quickly in the session with How To Statements and ideas;

* be a highly active member of the Synectics group;
* often contribute humorous How To Statements;
* generate spontaneously How To Statements and ideas;
* prefer to participate in Synectics sessions with Excursions than in those without.

Overall, this Participant tends to be impulsive. He is seen by the other members of the Synectics group as confident and occasionally immature.

v) Challenging Style. This Participant tends to
* disagree with : a) the Client's interpretation of the problem; b) the direction selected by the Client for problem solving; c) what constitutes a solution to the problem;
* be dogmatic in what is the 'best' way to solve the problem;
* 'withdraw' from the session if he becomes emotionally out of sympathy with the other members of the Synectics group and/or the content of the session.

Overall, this Participant tends to be confronting. He is seen by the other members of the Synectics group as independent and occasionally a nuisance.

The 5 Participant styles have advantages and disadvantages for the productivity of Synectics sessions.

Style	Advantages	Disadvantages
Research-Orientated	Useful in obtaining the salient aspects of the problem.	Too much information may confuse other members.
Divergent	Useful in opening up the problem; offers a wide range of How To Statements.	May prevent achieving a specific solution.
Systematic	Useful in idea development stage of the session; balances the Divergent style.	May inhibit speculation and novelty, especially in the Excursion.
Energetic	Useful in the Excursion; raises the activity level of the group.	May become over-zealous and out of step with other members.
Challenging	Useful in offering a fresh perspective and questioning (invalid) assumptions.	May usurp Client role and disrupt the session.

STAGES IN SYNECTICS GROUP DEVELOPMENT

3 stages were identified in Synectics group development, displaying successive changes in group problem-solving style :

Stage	Characteristics
Orientation	Leader style : Full-Control. Client and Participants are asked for How To Statements, ideas, etc. Low level of competence. Total reliance on Leader for process control.
Exploration	Leader style : Shared-Control. Client and Participants are asked for/volunteer How To Statements, ideas, etc. Medium level of competence. Partial reliance on the Leader for process control.
Autonomous	Leader style : Absent-Control. Client and Participants volunteer How To Statements, ideas, etc. High level of competence. Self-sufficient of Leader (except for administrative duties).

Increasing knowledge of, awareness of, and practice in Synectics methods.

Time ↓

Orientation

Initially the group adheres rigidly to Synectics methods. The Leader uses strictly the Synectics Problem-Solving Scheme. The Client and Participants need to be asked by the Leader for How To Statements, information, ideas, etc.

Exploration

With increasing practice, the methods are used flexibly. The Leader offers options in the use of the Synectics Problem-Solving Scheme. The Client and Participants investigate alternative interpersonal processes for communication. They begin to volunteer How To Statements, information, ideas, etc. without necessarily being asked by the Leader.

Autonomous

The Leader, Client and Participants are highly skilled in Synectics methods. The Leader adopts an Absent-Control style, with the Client and Participants implicitly controlling process. The Leader needs only to carry out administrative duties. He only intervenes in process control if he feels the Synectics methods are being abused or missapplied. Synectics sessions proceed rapidly and smoothly. The Synectics group is highly competent.

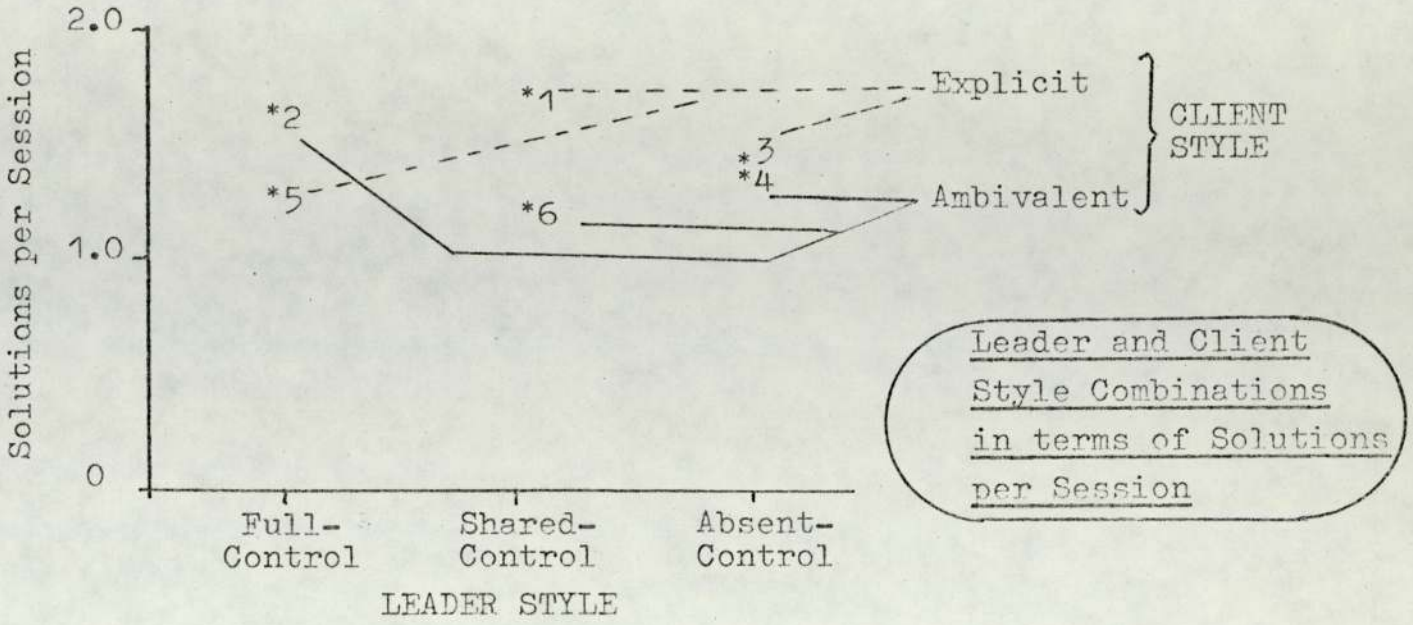
COMPETENCE

Competence may be defined in terms of the level of skill in applying Synectics methods. 6 competence factors were identified as being important for Synectics group operation :

i) Pace - the speed with which Synectics methods are used by group members.
ii) Activity - the degree of alertness and physical movement during a Synectics session.
iii) Process Flexibility - variations in the use of Synectics methods.
iv) Speculation - the use of analogy, metaphor and fantasy in a Synectics session.
v) Communications - the 'correct' use of such procedures as Headlining, Paraphrasing and In-Out Listening.
vi) Participation - amount of individual involvement in a Synectics session.

During the 6 five-day Synectics Basic Course studied, the Synectics groups improved their problem-solving competence. This indicated the significance of continued practice with coaching in order to achieve a high level of Synectics skill.

EFFECTS OF LEADER-CLIENT STYLE COMBINATIONS



The most effective style combinations were, in rank order :

Key	Leader Style	Client Style	Solutions per Session
1	Shared-Control	Explicit	1.700
2	Full-Control	Ambivalent	1.692
3	Absent-Control	Explicit	1.346
4	Absent-Control	Ambivalent	1.250
5	Full-Control	Explicit	1.211
6	Shared-Control	Ambivalent	1.091

The combinations of Shared-Control Leader/Explicit Client and Full-Control/Ambivalent Client represent style matches. These matches are a balance between flexibility of process control (Leader role) and clarity of content control (Client role). In other words, 'fuzzy' content requires tight process control. But with an Explicit Client the Leader can afford to loosen up on his control of process.

EFFECTIVENESS

The 98 Synectics sessions produced 137 possible solutions (courses of action). The maximum number of solutions for any given session was 4, with a modal value of 2. In 12 Synectics sessions the Client's problem was resolved completely. 11 of these sessions occurred within the Autonomous stage.

CREATIVITY

The 5 PARTICIPANT styles taken together correspond closely to the characteristics of highly creative persons. Their behaviour is characterised by a high level of activity, a high degree of spontaneity and curiosity, and extremely open-minded although at times withdrawn.

STRATEGIES

1. Leadership Strategies -

1.1 Planning

In addition to the usual planning considerations, the Leader needs to take into account :

i) the Client's interpretation of the problem situation;
ii) the competence level of his Synectics group.

1.2 Basic Strategies

The Leader has primarily 3 strategies :

i) The Leader should adopt the Full-Control style when interacting/communicating with an Ambivalent Client and Participants who are relatively new to Synectics methods.

ii) The Leader should adopt the Shared-Control style when interacting/communicating with an Explicit Client and a relatively competent group of Participants.

iii) The Leader should adopt the Absent-Control style when operating within a highly competent Synectics group.

1.3 Style Flexibility

The Leader should change his style as the Client's style alters during the session in order to achieve style matches.
Note : Client style considerations are more important for the Leader than the Client's level of problem-solving ability.

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2. Clientship Strategies -

2.1 Planning

In addition to the usual planning considerations, the Client should take into account :

i) the nature of his problem;

ii) his problem-solving objectives.

These should be discussed in detail with the Leader.

2.2 Basic Strategies

The Client has primarily 2 strategies :

i) The Explicit style is preferable where the problem is clearly defined and objectives are specific.

ii) The Ambivalent style is preferable where the problem constraints are ill-defined and objectives are general.

2.3 Style Flexibility

As a broad generalisation, the Ambivalent style tends to more productive at the How to stage of Synectics sessions. The Explicit style tends to be more productive at the idea development stage.

However, much will depend upon the Client's own perceptions of the problem content : he should at least be aware of his (adopted) style and his selected problem-solving direction(s).

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3. Participant Strategies -

i) There are primarily 5 strategies, based upon each of the

Participant styles.

3.1 Style Flexibility

i) Participants may adopt the style(s) they feel is most suitable for themselves.

ii) Care should be exercised in the use of each style. Over-rigid adherence to a particular style will almost inevitably have negative effects. For example, continued use of the Challenging style would disrupt a Synectics session.

iii) The highly creative Participant will adopt each style during a Synectics session.

iv) Participants may adopt a particular style depending upon the Client's wishes. For example, the Divergent style is useful for developing a wide spectrum of How to's if this is desired by the Client.

CONCLUSIONS

Problem-solving effectiveness is influenced by style. To become effective and efficient problem solvers, individuals need to develop a wide range of styles and a high level of competence in Synectics methods. There is no one best style. Rather style combinations should be considered. Effectiveness can be improved by achieving style matches between individuals. And because each Client's problem is different, Synectics group members will have to adapt

their styles/strategies to fit the particular situation : they must adopt a contingency problem-solving approach.

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CASE STUDY U.S.A. STUDY

ASSESSMENT OF 3 CREATIVITY INSTRUCTIONAL TECHNIQUES : SYNECTICS, BRAINSTORMING, AND PHYSIOGNOMIC RESPONSE

HYPOTHESES : S. Frantz (1975) studied the relative effects of training in Synectics*, Brainstorming, and Physiognomic Response techniques. He hypothesised -

i) that pupils receiving Brainstorming, Synectics and Physiognomic Response instruction would score higher on measures of creativity than pupils not receiving creativity instruction;

ii) that pupils receiving Brainstorming instruction would outscore pupils receiving Synectics or Physiognomic Response instruction on measures of fluency and elaboration as well as the total verbal, total figural and grand total scores;

iii) that pupils receiving Synectics or Physiognomic Response training would outperform subjects receiving Brainstorming instruction on measures of flexibility and originality.

RESEARCH SAMPLE : The sample was fifth-grade pupils in two public schools, a suburban school and an urban school. The two diverse schools were not selected for comparative purposes but rather to increase the generalisability of the results. Within each school, the subjects were randomly assigned to one of four groups : Synectics, Brainstorming, Physiognomic Response, and control.

* Early 1960's methods.

PROCEDURE : S. Frantz conducted all training sessions. Each group met ten times on consecutive school days and each session lasted 30 minutes. During the second week following the conclusion of the training sessions, all subjects were administered the Torrance Tests of Creative Thinking. These tests provided 10 scores for analysis : verbal fluency, verbal flexibility, verbal originality, figural fluency, figural flexibility, figural originality, figural elaboration, total verbal, total figural, and grand total.

RESULTS : The factorial analysis found significant treatment effects on all 10 creativity scores. The analysis also found significant differences between the two schools on 8 of 10 scores. In addition, the factorial analysis revealed significant interaction effects on 5 of the 10 scores.

The results indicated partial support for the hypothesis that pupils receiving creativity instruction would outscore pupils not receiving creativity instruction on all 10 creativity scores. The results did not support the hypothesis that pupils receiving Brainstorming instruction would significantly outscore pupils receiving Synectics or Physiognomic Response instruction on the total figural, total verbal, grand total, verbal and figural fluency, and figural elaboration.

The results did reveal partial support for the hypothesis that pupils receiving Synectics or Physiognomic Response training would outscore pupils receiving Brainstorming training on measures of flexibility and originality.

CONCLUSIONS : Synectics instruction was found to be the most successful technique for increasing pupils' creative performance. For the total sample, the Synectics groups significantly outscored controls on 8, 6 and 9 scores respectively. Physiognomic Response instruction was the next most successful. The Physiognomic Response groups scored significantly higher than controls on 7 of 10 scores for the total sample, 7 of 10 scores for the suburban sample, and 6 of 10 scores for the urban sample. Brainstorming instruction was the least effective of the 3 techniques. The Brainstorming groups significantly outscored the control group on 3 of 10 scores for the total sample, 5 of 10 for the suburban sample, and 1 of 10 for the urban sample.

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Reference :

S. Frantz : An Assessment of the Relative Effects of 3 Creativity Instructional Techniques. Ph.D thesis; New York University; 1975.

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CASE STUDY U.S.A. STUDY

CHURCH PARISH EXPERIMENT

THE PROBLEM : Since Pope John XXIII and the Second Vatican Council, the byword in Roman Catholic parishes has been "collegiality" - teamwork.

However, the successful evolution of the local parish from a patriarchal, protective community to a faith team with a mission has not yet become a universal reality. Overbearing clergy and a laity accustomed to contributing money rather than talent do not always work together harmoniously, nor creatively.

OUR HYPOTHESIS : In the past, the Synectics procedures have proven successful in facilitating teamwork when applied within strong hierarchical structures. We speculated that we would be even more useful where strong traditional practices were in the process of change.

Change from a strong hierarchical to a more permissive structure creates a high potential for creative involvement by individuals in large organisations. However, a concern arises in the sudden loss of dependable mechanisms for getting work done. Somehow independence is not enough. Alternative ways of working or new "tools" are needed.

THE EXPERIMENT : One parish in the Archdiocese of Boston asked Synectics Inc. to work with them in solving the problem and avoiding the pitfalls that arise when an institution as large as the Church undergoes modernisation. A member of the parish staff enrolled in the Synectics Open Course in Cambridge. Subsequently, as a Synectics Intern, he developed additional skills to train six of the seventeen Parish Council members. The training programme was closely supervised by the Synectics staff.

RESULTS : When the "Synectors" met to deal with parish problems, there was a marked absence of the old unproductive committee-meeting dynamics. Nitpicking, authoritarian stances, competition, put downs, turn-offs, were reduced to a minimum. Instead, this group was able to channel the bulk of its energy into imaginative and productive teamwork.

In one case, initial plans for a centenary observance of the parish's founding were formulated at a parish council meeting. Ideas prepared and developed by the six "Synectors" were presented. Participants and observers alike felt the plans were uniquely conceived. The end result was a parish 100th Anniversary celebration involving 9,000 people that would cost nothing, promised to fill the greatest needs of parishioners, and was designed to be of service to the town and wider community.

More subtle results were observed when the Synectics-trained people worked with the rest of the parish council and with others in the parish. Their supportive responses to these co-workers encouraged and built good workable ideas. Such responses evoked creativity and less defensive behaviour from everyone. In addition, the relationship between the parish staff and the Synectics-trained laymen was changed. A transition was made from a strong reliance on authority figures for guidance to a cooperative use of each other to achieve results.

CONCLUSIONS: Synectics problem-solving procedures provide functional alternatives to a strong hierarchy. Not only does skill development provide the basis for results-getting in a new organisational structure, but ways are also found to transfer old relationships to the new setting.

Cooperative problem solving provides a workable climate for change to take place and also for continued effective operations as the change occurs.

The parish is enthused about its ideals and goals, and believes that Synectics Inc. has helped it to move forward.

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CASE STUDY U.S.A. STUDY

DEPARTMENT STORE EXPERIMENT

THE PROBLEM : Synectics Inc. was asked to work on friction and hostility between lower levels of workers. Authorities believed that the cause of the problem was racial differences.

OUR HYPOTHESIS : That the experience of cooperative problem solving on job-related activities would help to reduce stereotyping and prejudice.

THE EXPERIMENT : Creative problem-solving techniques were taught to eight groups of employees. Each group was made up of six people, and contained both black and white employees. The employees in each group represented a range of job levels, from stock-room helper to floor manager. The groups worked on department-store problems about which they were knowledgeable. Each person brought in a problem which was real and for which he was responsible. For example, one man's problem was that he was bored with his job. One woman's problem was that other women in the shift preceding hers failed to replace merchandise neatly. Each group received six three-hour training sessions in which they they learned Synectics problem-solving techniques while working on group members' problems. As a control, in the initial phase of the experiment several groups were asked to solve problems without any Synectics training.

OBSERVATION : The sessions were watched and recorded on closed-circuit TV by a trained observer. Analysis and observation of the tapes supported an unexpected conclusion : that is, in the early sessions that involved problem solving without training, it appeared that hostility was unrelated to racial differences. Throughout each session, nearly everyone displayed a high degree of hostility toward everyone else. Cooperation was a rare element in the group's mode of operation.

RESULTS : During their training, members of each group learned to develop his or her capacity to understand elements of a problem, to speculate about possible approaches, and to build on the contributions of others. The groups enjoyed this cooperative problem-solving process. Hostility, when it appeared, was dealt with as a problem that challenged the group to use its newly acquired skills in order to solve it.

In addition to the reduction of hostility and increased cooperation, there emerged an understanding and appreciation of each person's potential for problem solving. This reinforced the understanding that cooperation could be learned and that it was both productive and satisfying.

The most noteworthy outcome of the experience was a substantial change in some members' appreciation of their own ability to identify and solve problems and thus have more control over their environment. This is illustrated by the following example :

'John Smith', a fifty year-old foreman in the stock room, had worked for the store for twenty-seven years. He grew up in a black ghetto and did not graduate from high school. Weeks after the Synectics course, John was asked if he had found it useful in his work. He told of an experience in which he used Synectics techniques to solve a problem. A trucker who worked with him had been coming late every day. John's boss recommended that the trucker be fired. John treated the situation as a problem to be examined and looked for a better solution. The trucker was a willing and dependable worker and easy to get along with; but he had trouble in getting up in the morning. John's alternative solution : cut a few minutes from the trucker's lunch hour and breaks to make up for the lost time. This was acceptable to John's boss, and the trucker was kept on this basis. John commented that, before his Synectics experience, he would have just gone along with his boss, although he would have been unhappy about the decision. In John's words : "I would have thought that there's nothing I can do about it." This change in John's view of his own ability to influence his environment illustrates the important effect Synectics problem-solving experiences can have on self-development and personal growth.

The department store that participated in this experiment now has three full-time Synectics trainers and intends to expose as many of their employees as possible to Synectics.

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CASE STUDY U.S.A. STUDY

EFFECTS OF SYNECTICS TRAINING ON CREATIVE THINKING

BACKGROUND : W. Korth (1971) set out to investigate the effects upon individuals of training in Synectics methods. He hypothesised that Synectics-trained individuals would improve their creative-thinking abilities. It was also hypothesised that these individuals would manifest personality changes in traits characteristic of demonstrably creative people.

PROCEDURE : Volunteers were obtained for a college course in Synectics methods. All the volunteers were administered a battery of creativity and personality tests. These individuals were then divided into two groups : an experimental group (Synectics training) and a control group (no training). The experimental group was given 30 hours of training. Both groups were given two real-life problems to solve, and subsequently retested.

RESULTS : Strong evidence was found to indicate that the training group did improve in their use of the Synectics methods. The Synectics-trained group improved on the creative-thinking measures more than the control group. No personality change was found.

CONCLUSION : Synectics training enables individuals to become more creative thinkers.

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Reference - W. Korth : Training in Creative Thinking. Msc. Thesis. University of Michigan; 1971.

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CASE STUDY U.K. STUDY

FERODO EXPERIMENT

BACKGROUND : Dr. R.C. Parker introduced Synectics methods into Ferodo Ltd., a manufacturer of car components. He studied the effects of Synectics training and application over 2 years (1973-1975).

MODUS OPERANDI : It was decided to train a team of eight individuals from the R. & D. Division for a week and this was carried out away from the company to aid group sensitivity. Disciplines represented were physics, engineering, metallurgy, chemistry, mathematics, and material science technology. In status, the group was generally upper management. Ages ranged from 42 to 46; one was 60. Senior staff were chosen because, if successful, the techniques could easily be extended to all management levels.

After training, R. & D. problems were submitted at weekly sessions and even after 30 sessions the team felt that their performance was still improving. Practice in the role of Leader was found to be particularly needed and roles within the group were rotated so that all would appreciate each other's difficulties. Results were of considerable interest and in 70% of cases a solution emerged that a Client judged satisfactory for his requirements.

At this stage the technique was introduced across the company and training to a second group. This was also multi-disciplined and from upper management, with ages ranging from 25 to 54.

Following training, sessions comprised members from both groups chosen according to the nature of the problem and availability of individuals. Of the 71 problems brought to the group 58% were managerial, 34% scientific or technical, and 8% general.

A number of the managerial problems involved more than one Client. When a solution satisfactory to the initiating Client implied action that he had no authority to take, the next individual took over Clientship. This procedure sometimes occurred as many as four times. In these instances, solutions accepted by subsequent Clients always satisfied earlier ones, since all Clients attended the multi-part sessions and were already aware of which ideas were unacceptable. Occasionally a solution from multi-Clientship sessions proposed action for which no one would accept ownership. Since upper management of all appropriate divisions was represented, gaps in the company organisation were identified and subsequently filled.

CONTROL GROUP : Although the number of successful sessions was satisfactory, confirmation of Synectics methods was sought by running comparative sessions with staff untrained in Synectics. This parallel group was selected to match the Synectics team as nearly as possible in discipline, status, sex and age. Both teams were given identical problems and the same time to effect a solution. Surprisingly, virtually identical concepts emerged from both groups. The first problem was scientific. Only the Synectics team developed the ideas into a satisfactory solution. The second problem was managerial and the results were similar. However, the control group was deflected by high tempers.

A third session discussed a serious management problem when five individuals together advanced only 10 really different ideas, which received only lukewarm acceptance. A parallel Synectics session yielded 48 ideas and a solution that was enthusiastically embraced.

RESULTS : 69% of the sessions achieved solutions judged satisfactory by the Client. In each of the last 17 sessions, 14 management and 3 scientific problems were solved. This was due to improved performance and skill in selecting and presenting problems responsive to Synectics methods.

Final judgement on the possible solutions cannot be made because technical and even some management problems take time to implement fully. Of the sessions held after the second training period, 52% of solutions have been implemented satisfactorily. A third have been subsequently modified in detail. 35% await implementation and the rest have been rejected on close examination.

CONCLUSIONS : Synectics is not necessarily easy, and the Client is often exhausted at the end of a session. But it is a powerful group method for solving problems. It generates an atmosphere in which individuals are encouraged to participate to the utmost. It imposes a discipline that directs the group at a solution and stimulates new ideas. It also has great potential for dealing with problems that involve many sections of a company in that it fosters team commitment.

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Reference :

R.C. Parker : 'Creativity - a Case History'. Engineering; February 1975.

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Footnote :

Reg Parker is now a member of Abraxas.

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CASE STUDY U.S.A. STUDY

METROPOLITAN HOSPITAL EXPERIMENT

THE PROBLEM : The number of people applying for out-patient psychiatric help increases each year at a rate far greater than the capacity to provide this help. Treatment is slow, costly and requires highly skilled professionals.

OUR HYPOTHESIS : Some of the symptoms of the people seeking psychiatric help resemble the behaviour of certain groups of economically deprived people we have worked with. For example, they often have difficulty communicating with others; they often have trouble understanding that every problem has many facets that can and must be differentiated; they tend to be passive and sometimes hostile rather than take action. Learning to problem-solve had helped the deprived group and because of the specific common symptoms, it was felt that learning to problem-solve more effectively might act as a catalyst for the patients in their work in either individual or group therapy.

THE EXPERIMENT : One group of two young men and four young women was taught Synectics creative problem-solving techniques. Each took at least one turn offering his problem while the others in the group helped him to develop solutions. The group met two hours a day, twice a week for six weeks. Typical problems : "I can't find a job that interests me." "How can I use my experience as a teacher and my interest in psychology?" "My small employment

agency is going out of business for lack of people to place."

OBSERVATION : The group was observed over closed circuit TV by a psychiatrist, a PhD researcher and a research assistant from the hospital. A great deal of data was collected from post-course interviews, from observation of students in various traditional therapeutic settings, and from observed changes in behaviour.

RESULTS : All six participants, to some degree, changed their self-image from helplessness toward being able to identify and solve problems. Four of the six took substantial action to change their situations for the better....better jobs, a revived business, seeking new friends, etc.

Three of the six participants were in therapy during their Synectics experience. Their doctors reported speeded progress and increased willingness to recognise and deal with the issues that had led them to seek psychiatric help.

These results are considered promising enough so that much more elaborate experiments are being planned with more rigorous controls and with larger numbers of subjects. In preparation the psychology research assistant has already been trained as a Synectics trainer.

CONCLUSIONS : Since the simplified problem-solving course can be taught by any qualified trainer...and college education is not essential...the implications for increasing

services to patients in psychotherapy, both in out-patient and in in-patient status, is enormous. Paramedical staff, volunteers, and patients themselves have the capability to be useful in providing this kind of help.

In addition, Synectics might contribute to the realm of therapeutic techniques available to practising therapists and broaden the application of their psychiatric and psychological expertise. In order to explore the value of the Synectics techniques to practising therapists, the research psychologist requested that the same course be given to a group of Psychiatric Residents.

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CASE STUDY U.S.A. STUDY

PROBLEM LABORATORY EVALUATION

BACKGROUND : S. Hughes (1970) studied the effects of applying Synectics methods in Problem Laboratory situations. The findings below are based on information supplied by 49 participants.

GENERAL FINDINGS :

* Generation of possible solutions was the primary objective for Problem Lab. staff and participants, and there was a high degree of success and participant satisfaction.

* The number of possible solutions generated in Problem Lab.s and the number used/discarded have varied according to the objectives of the sponsors and the nature of the problems. Marketing Concept Lab.s tended to produce more ideas, a few of which were used; while Technical Lab.s tended to produce fewer ideas of which a higher percentage were used.

* In general, the number and importance of likes far outweighed the participants' concerns about the Lab.s.

* Frequently mentioned likes : the approach and techniques, the relaxed yet stimulating atmosphere, the detailed listing of the final report, the background material.

* Frequently mentioned concerns : the problem was insufficiently defined, the follow-up was insufficient - lack of teamwork and involvement of Synectics Inc. staff.

* There was considerably less positive reaction and more negative reaction to what went on before and especially after Problem Lab.s than what went on during them.

* Participants' reactions to Problem Lab.s tended to become more favourable over time as Problem Lab. services were developed and as client use of these services accelerated.

* Learning skills for one's own use in working with others was considered as important to participants as obtaining possible solutions.

* More than half of the respondents used Synectics methods with associates, subordinates and supervisors as well as their families.

* Participants obtained as much satisfaction from their personal learning and teamwork as they did from the possible solutions.

* Certain organisational characteristics (such as intense time pressures, formal atmosphere, absence of mutual intent, lack of trained Leaders) made it difficult for participants to apply Synectics methods for solving problems in groups once back in the work situation.

* The mobility of individuals within the corporate organisation appeared to complicate continuing follow-up of solutions generated in Problem Lab.s and to discourage the implementation of long-range solutions.

* There was a strong desire on the part of participants for more follow-up assistance from Synectics. Specifics mentioned were :

i) More cooperation needed between sponsor and staff in summarising possible solutions, combining related ones, presenting the logic of the ideas and relevant analysis.

ii) More follow-up sessions needed with entire group and staff in order to : make assignments, discuss results, and tackle problems as they come up.

iii) Assistance needed in reporting to management.

iv) Synectics Inc. help needed in testing possible solutions on consumers.

* A number of individuals commented that " the Problem Lab. approach produced some good ideas but this is only a small fraction of the total benefit which could be achieved." "Synectics could be of great value if used on a continuing basis." "Anything we could do to internalise the process in order that it become part of our everyday operating procedure would be extremely beneficial."

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CASE STUDY U.K. STUDY

SYNECTICS PRACTICE WITHIN THE FAMILY

BACKGROUND : Synectics methods were taught to a family of four individuals over 12 months. The family consisted of John, an accountant; Marie, his wife; and Steven and Jane, their children (7 and 8 years old respectively). During this period they were also given practice in supplementary techniques, including Psychodrama, Brainstorming, Transactional Analysis, and Finger Painting. These techniques were mixed with Synectics methods in order to extend the range of procedural and skill options.

INITIAL DIFFICULTIES : When they were first introduced to Synectics methods, John and Marie were very receptive. The children, Steven and Jane, were less enthusiastic. They enjoyed the Imaging Excursion, but disliked the use of large (pulp) pads, lined note pads and timers as "it was just like school." They also complained that the Synectics Problem-Solving Scheme "was hard to do."

In order to overcome these difficulties several ideas were experimented with :

i) Whitewashing the garage. Pulp pads were abandoned in favour of whitewashing the inside of the garage. All subsequent Synectics sessions were held inside the garage, using the walls as giant 'pads'.

ii) Timers were no longer used. Instead formal Synectics sessions were restricted to 3 hours per week. Many informal sessions occurred between these formal sessions.
iii) Devising 'Snoopy' pads and cards. Lined note pads were replaced by specially made note pads (unruled) with a simplified form of the Synectics Problem-Solving Scheme printed on small cards. These pads and cards incorporated the 'Snoopy' cartoon character in order to raise the fun level of the Synectics sessions.

RESULTS : The following comments indicate some of the positive effects of Synectics practice :
John : "Marie and I don't have so many arguments now that we have applied Clientship to household duties. We've really been using Clientship for years. But now it's a lot clearer and somehow there is more respect between us."
Marie : "John doesn't say 'No' to me any more when I want to do something. He now says 'Yes provided that.....' and we do some problem solving."
Steven : "Mummy doesn't shout at us so much when we do something wrong. She talks things over with us now."
Jane : "Daddy listens to me much better."

Psychodrama procedures, especially role reversal, combined well with Synectics methods. John and Marie both said that switching husband-wife roles was useful in understanding each other's viewpoints. The children enjoyed the licence to paint on the garage - without being scolded, as occurred before the Synectics practice started.

The negative effects centred around Arthur, John's father. When informed about the Synectics experiments, he reacted with "psychological rubbish" and "it's more important that the kids learn the 3 R's (reading, writing and arithmetic) than scrawling on walls." John and Marie are at present attempting to alter his hostile opinion by gradually introducing him to Synectics methods.

CONCLUSION : The practice of Synectics methods, and related techniques, has a powerful positive effect in stimulating self-development within the family.

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CONNECTIONS SHEET

Please use the space below for your personal connections on how you will utilise Synectics in your back-home situation.

Example : Paraphrase and Itemised Response - will help me to understand and to credit Jim's ideas (especially when I do not ask for them).

Please use additional sheets, as you wish.

DAY 1 PROBLEMS

Better Mouse-Trap Problem

Safe Circular Saw-Blade Problem

Thermos-Bottle Closure Problem

BETTER MOUSE-TRAP PROBLEM

You are probably familiar with the spring-loaded mouse trap. Imagine that you are employed as a group to invent a better mouse trap. Your group's new design must fall within the following specifications :

i) should only trap, and not kill or maim the mouse;
ii) must not cost more than 35 p./70 c. to produce;
iii) cheese is no longer to be used as a means of attracting the mouse;
iv) there should be no danger to other animals (e.g. family pets);
v) must not be a health hazard;
vi) must be easy to set.

SAFE CIRCULAR SAW-BLADE PROBLEM

You are probably familiar with the portable electric saw. This is a very effective tool, but it is potentially dangerous. Imagine that you are employed as a group by a saw-blade manufacturer to invent a safe circular-saw blade. The new blade must fall within the following specifications :

i) must cut wood effectively;
ii) must use present power sources without modification;
iii) must be safe enough for a 10 year-old (or above) child to use it without being hurt;
iv) must not add more than 25% to retail cost. (Average retail price for a 7" saw blade is £1.10/$2.)

For Day 1 of Course

THERMOS-BOTTLE CLOSURE PROBLEM

You are probably familiar with the wide-mouth thermos bottle. The wide mouth is to permit the entrance of a spoon for eating stews, drinking thick soups, etc. Imagine that you are employed as a group to invent a new closure for this product to replace the stopper. The new closure must fall within the following specifications :

i) should be loss-proof and integral with the bottle so that the top does not have to be removed to reach the contents; there should be no strings, chains or hinges;
ii) cup top should be retained in a useable form;
iii) must not add more than 35 p./70 c. to retail cost;
iv) must be easily cleaned;
v) must be thermally effective for 10 hours;
vi) must hold pressure up to 1.5 pounds per square inch;
vii) thermos bottle itself must not be altered;
viii) wide mouth must be retained.

FEEDBACK SHEET For today's activities

Name : _____ Date : _____

Please use the space below for your comments on today's activities, in which you were involved. Your comments help us to improve subsequent sessions. Please feel free to comment not only on the results of today's sessions, but also on our presentation of the Synectics methods, course administration, facilities, the staff members, etc.

+ What I have found useful, helpful and enjoyed.	Ø My concerns, 'How To's', ideas for improvement, wishes.

Please Use Additional Sheets, as you wish.....

FEEDBACK SHEET

For the Course as a whole

Name : _____ Date : _____

Please use the space below for your comments on the Synectics Course as a whole. Your comments help us to improve future Courses. Please feel free to comment not only on the week's activities, but also on our presentation of the Synectics methods, course administration, facilities, the staff members, etc.

+ What I have found useful, helpful and enjoyed.	Ø My concerns, 'How To's', ideas for improvement, wishes.

Please use additional sheets, as you wish.....

HOW TO STATEMENTS

Statements expressed in the form of "How to....." are an important part of the Synectics process. They were originally introduced to capture Participants' different perspectives of a problem. After the Client had stated his problem as he saw it (Problem As Given), each Participant was asked to restate it from their own individual points of view - How To Statements.

It was soon found that this was a sparking process : each member's 'How To' triggered fresh ones. The quality of the material generated in this way was found to be highly productive in opening up the problem area to entirely new ways of looking at it. It also proved an effective method of articulating the embryonic ideas that occurred to group members as they listened to the explanation of the problem.

The 'How To' form of words is used because it is solution-oriented, and therefore has a positive effect on the climate of the meeting. A statement like "the problem is that we cannot afford to do the things that are necessary" often has a negative and an emotionally dampening effect. It invites a response like "let's not waste our time trying then." In 'How To' language, the response might be :

* How to reduce costs
* How to get more money
* How to defer payment
* How to match objectives to resources
* How to cut our coat according to our cloth
* How to get free assistance
* How to get help from public funds
* How to structure our priorities

Each of these 'How To's' opens up a new line of exploration, any one or more of which may prove original and fruitful. No evaluation is made of the How To Statements. Their purpose is to bring new elements into the session and trigger new lines of thought. They also enable Participants to express viewpoints which are apparently opposed to that of the Client - that he does not really have a problem or is approaching it the 'wrong' way - in a manner that is neither aggressive nor threatening to the Client.

In addition to its use in the early phase of problem solving (during and after the Analysis by the Client), the 'How To' language is an integral part of the ITEMISED RESPONSE : the constructive evaluation of ideas by identifying their useful and helpful features followed by a direction-pointing How To Statement.

For example, by expressing "How to overcome the deficiency", new creative effort is invited from the group and directed at the area of need. To say "That would be too expensive" may kill an idea (and may discourage the individual who put it forward). "How to do it within our cost limits" encourages further contributions.

USES AND VARIETIES :

Experience with 'How To' language has identified numerous uses and varieties, as illustrated by the following lists :

Uses :

* to capture multiple interpretations, understandings and definitions of the stated problem;
* to relieve the burden of searching for a single solution that would cure all aspects of the problem;
* to avoid premature focus on one line of speculation before other alternatives have been considered;
* to support early, in the session, development of ideas to solve the problem;
* to elicit feeling (gut) level responses to the problem in addition to thinking (head) level responses;
* to reduce the initial threat of novelty (newness) of some particularly wishful (or speculative) ideas;
* to relieve the temporarily limiting and discouraging effect of real world restrictions;

* to permit (apparently) conflicting viewpoints to be aired;
* to overcome the reluctance of the non-expert to offer his input (whether due to ignorance, perceived threat, etc.);
* to alleviate confusion about which aspect of the problem should receive the group's attention (e.g. whether cause, effect, symptoms, etc.);
* to deal with the probability that time will not permit the full development of all ideas and that many will be lost during the session;
* to overcome the difficulty of an expert feeding relevant information to the group without putting them to sleep with boredom;
* to satisfy the wish to get group commitment to a solution (not exactly the same as consensus);
* to counteract and assuage the tendency of group members to sometimes ask questions of the Client.

Varieties :

1. How To Statements may paraphrase the P.A.G.
These demonstrate to the Client that he is being heard and that the group is there to work for him, and not primarily for themselves. Also, they help to clarify some of the needs that the Client has expressed in the Analysis, by breaking the problem into bite-size pieces. For example :
P.A.G. To devise a way to improve communications in our large organisation.
HOW TO'S : How to build channels of personal communication within the organisation.

How to remove the barriers between people within the organisation.

2. How To Statements may interpret the P.A.G. in various ways that broaden and deepen the perspective on the problem. These help to take advantage of the different definitions of the problem. For example :

P.A.G. To devise a way to improve communications in our large organisation.

HOW TO'S : How to create the atmosphere of a commune within the organisation.

How to help the people within the organisation realise and enjoy their independency.

3. How To Statements may constructively misunderstand the P.A.G. and suggest surprising new directions for investigation. These are often based on apparently erroneous data or on Participant ignorance of the problem area. For example :

P.A.G. To devise a way to improve communications in our large organisation.

HOW TO'S : How to break up an organisation into separate operating units.

How to use outsiders to improve communication.

4. How To Statements may oppose the Client's original orientation and challenge the values embodied in the P.A.G. This is a way of handling differences of opinion and conflict. For example :

P.A.G. To devise a way to improve communications in our large organisation.

HOW TO'S : How to accomplish the aims of our organisation without people.

How to eliminate the need for personal interaction within our organisation.

5. How To Statements may wish for utopian solutions and thereby extend the boundaries of the possible. Wishing is one of the most powerful tools available to the group.
For example :

P.A.G. To devise a way to improve communications in our large organisation.

HOW TO'S : How to allow the members of our organisation to communicate using mental telepathy.

How to stimulate instant contact between new and old members of the organisation.

6. How To Statements may be freely associated with the problem and thus take advantage of apparently extraneous thoughts or images that arise in Participants' minds.
For example :

P.A.G. To devise a way to improve communications in our large organisation.

HOW TO'S : How to help all the people in our organisation feel like they are playing together in an enormous sandbox.

How to provide the organisation with a communal Coke from which all can sip through straws.

7. How To Statements may combine the elements of other 'How To's' in novel ways that highlight and organise the complexity of the P.A.G.

P.A.G. To devise a way to improve communications in our large organisation.

HOW TO'S : How to get the people together when they need to collaborate and let them alone when they need to meditate.

How to engender flexibility within the organisation so that people may group, de-group, and re-group as appropriate.

8. How To Statements may be used to introduce the beginnings of an idea or solution.

P.A.G. To devise a way to improve communications in our large organisation.

HOW TO'S : How to divide the organisation up into families, with one member from each department and at each level.

How to use hobby clubs to spark off regular informal get togethers.

9. How To Statements may counter concerns while preserving the likeable aspects of an idea, or concerns about other 'How To's'.

These encourage the generation of practical, acceptable solutions to the P.A.G. by demonstating the Client's willingness to try to use everything the group offers.

CONCERN : Some means of improving communications within a large organisation distract and therefore detract too much from the work to be done.

HOW TO'S : How to use the work to be done as a vehicle for improving communications.

How to get people to work and play together at the same time.

10. How To Statements may also counter restrictions presented by the Client during his Analysis of the P.A.G.

CONCERN : Replacing all internal, non load-bearing walls with Pexiglass to create an atmosphere of openness would be too costly.

HOW TO'S : How to replace only key walls to achieve controlled openness.

How to find an acceptable, less expensive substitute for Pexiglass.

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These uses and varieties of How To Statements are not exhaustive. More are being discovered all the time and there is a high probability that you will discover some of the new applications yourself.

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INTRODUCTION-TO-COURSE CHECKLIST

Welcome

Introductions

House Keeping and Course points to cover :

Start-Finish times : Monday-Friday, including evening sessions

Breaks : Coffee/Lunch/Evening Drinks

Toilets

Phone Calls/Messages

Video equipment and Confidentiality of videotapes

Dress

No marks : "He/she did fine."

Staff-Course Member relationships : Captain/Staff Coach roles

Synectics History

Course Structure : Planning/Doing/Reviewing

Introduction to Thermos/Saw/Other problem; or, alternative option

PERSONAL NOTES - Other points to cover :

_____

_____

_____

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INTRODUCTION TO THE SYNECTICS PROBLEM-SOLVING COURSE

There are several objectives to the Synectics Course that you are about to attend/are attending :

* To help you rediscover and make conscious the problem-solving methods that you have been probably using for years unconsciously. By recognising and re-evaluating these methods, you will be able to be deliberately creative more often.

* To provide a mirror in which you may observe accurately some of the ways you behave towards other individuals and yourself. The Synectics Course permits you to evaluate your behaviour in problem-solving situations and to decide which behaviours should be encouraged, discouraged, or changed. Where change is desired, we will offer alternatives for each decision. This process of checking your assumptions and behaviour against meeting results will help you to be a more effective manager and person.

The medium in which we work involves extensive use of videotape facilities and a group of Course members with the Synectics Inc./Abraxas staff. The group activity allows a sharing of insights to reinforce the self-teaching experience. Videotape recording allows each of us to supplement our memories and perceptions of a situation with an objective replay of that situation.

Synectics is not a course on which you are given marks. We do not give reports on "how you did" to anyone. If asked we have a standard response : "He did fine". Our belief is that everyone is creative and does not come to prove something.

Synectics training procedures are straight-forward process and practice sessions. Our intent is to give you enough opportunities in experiencing the Synectics skills and procedures in practice sessions that you will incorporate them into your day-to-day working style and thereafter when you return to your office and home.

Synectics Course content is based on a continually updated body of knowledge. That knowledge is based upon observations of and research into meetings among people like yourself, in the context of working with others to accomplish various tasks. Also, many of the content elements in the Course have evolved in response to the requests and insights of previous Course members.

The Course comprises several stages. The first stage permits you and your group to experience and to observe yourselves in a problem-solving session. Out of this session come a number of insights and issues about the nature of meetings. These issues form the basis of much of our activity for the coming week.

In the second stage of the Course, some of the basic Synectics skills, procedures and techniques are introduced. You learn a mildly-dogmatic Synectics method of leading, participating in, and using problem-solving meetings. There will be time to question the procedures and compare them to methods you have used before. Again, videotaping will provide a basis for examination. As the week progresses, you will be encouraged to experiment with, change and adapt the procedures to fit your own personal style and desired results. Our goal is to help you to find as many ways as possible to increase your probability of success in meetings.

All the problem-solving procedures are presented and experimented within the context of solving real-life problems, which each Course member/you is asked to bring to the Course; see below. By the end of the week, you have a basic understanding of the theory and practice of Synectics.

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PREPARATION

An important objective of the Course is to help you in handling your day-to-day work. While, in a general sense, you spend much of your time solving problems, both large and small, quite often these do not appear as'problems'. Similarly, you may make 'decisions' or offer suggestions in order to help someone. We would like you to take some steps to bring part of your job with you.

Please bring with you/formulate 2-4 real, current and specific problems (or,'opportunities') for which you have no satisfactory solutions. The problems should be yours. That is you should be the person responsible for implementing the solutions. Be prepared to give some examples of how these problems express themselves; why is each a problem for you; and what you may have tried or thought of to date in order to solve them. It would be particularly useful if you would bring a balance of "thing" problems and "people" problems. If your work seems almost exclusively people-oriented, consider bringing/formulating a "thing" problem from outside your work situation (e.g. a Hobby).

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GUIDELINES FOR THE SELECTION OF PROBLEMS TO WORK UPON

Inasmuch as all the elements of Synectics methods are designed to increase the probability of achieving success, the way the 'beginning problem statement' is positioned can help or hinder this goal. We would like to offer you the following examples of common problem areas, with different ways of stating them and the rationale for our preference.

1. GENERAL V . SPECIFIC PROBLEMS

Examples :

* How to reorganise my department.
* How to plan my holiday.
* How to find a job.

} GENERAL

For the week's training, we will be spending approximately 30 minutes on each problem. Since a desired-end purpose to the week's activities is to arrive at feasible solutions to the problems you will be bringing, we suggest that you break broad general problems, such as those above, into smaller pieces that would touch upon some of the crucial issues involved, as well as provide a quicker route for achieving solutions.

Examples :

* How to establish a clearer set of objectives for my department.
* How to budget my holiday.
* How to use a career counselling procedure effectively.

} SPECIFIC

2. OWNERSHIP OF THE PROBLEM

Examples :

* How to reduce the rate of inflation.
* How to inform young people of the horrors of drug abuse.
* How to rectify the U.K. balance of payments problem.

While the above examples are real-life problems to many people, in order to really effect change in any such areas, it is necessary to first bring the problem down from its global level.

Two considerations need to be made :

i) how is it a problem for you personally; and

ii) what is your power and freedom to act for implementing any solutions.

At a personal level, the above problems may be expressed as :

* How to heat my home for less money.
* How to teach my children about drug abuse in a non-threatening manner.
* How to help my company to export its products.

3. MOTIVATING OTHERS

Examples :

* How to get my secretary to be more organised.
* How to get my husband to help with the housework.
* How to have my boss attain a better sense of priorities.

Individuals frequently see solutions to their problems by getting others to do something. It is true that many problems and solutions are tied often up with other people. Yet to initially seek solutions to a problem by limiting oneself to getting someone else to "do it" may not be as productive as it might be. The reason is simply that it is almost always more difficult to motivate another person to change his behaviour than to change our own.

While not ruling out the eventuality of attacking a problem in this manner, one suggestion is to examine other ways of beginning to solve the problem, especially in those areas where we have full-implementation powers. The way in which we do this is to ask ourselves : " If I did succeed in getting my secretary more organised, what would that be doing for me? " The answer to this question may provide us with a broader base from which to begin to work on the problem. For example, I may answer that it would free a valuable piece of my time, which I would devote to a more intense sales programme.

Then the problem statement may read : " How to free more of my time for selling my company's products." One approach to this problem may be to work on the secretary-piece of the problem. And yet, simutaneously, we may discover other approaches that only involve changing our own behaviour. Since we are relying on ourselves for changes, we are a little closer to being successful.

Examples :

* How to free a significant piece of my time for my sales programme.
* How to devote the right amount of energy to being a professional woman and housewife.
* How to set my own priorities in a subordinate position.

4. PERSONAL DECISIONS

Examples :

* How to stop smoking.
* How to lose weight.
* How to improve my work situation.

In our experience, with problems of this nature, the solutions arrived at are often gimmicks that, whilst helping with the problem, avoid the real source of the problem. By source we mean the reasons that are preventing us from deciding to stop smoking, lose weight, etc. One suggestion in working on these types of problems is to ask yourself what may be preventing you from making that decision, and present that as your problem statement.

Examples :

* How to curb my appetite while giving up smoking; (fear of increasing weight prevents my decision).
* How to satisfy my sweet tooth while losing weight; (I know that I will not stop eating sweets).
* How to experiment with saying "No" in low-risk situations; (my inability to say "No" is adversely affecting my work).

EXAMPLES OF PROBLEMS BROUGHT BY PAST COURSE MEMBERS

* = 'thing' problems

+ = people problems

*+ = mixture of people and 'thing' elements

1. To devise new applications for plastic. *
2. To improve communications amongst my salesmen. +
3. To devise new nappies for babies. *
4. How to best position our new product. *
5. How to improve my counselling sessions. +
6. How to help my wife budget more effectively. *+
7. To develop a new career counselling programme. *+

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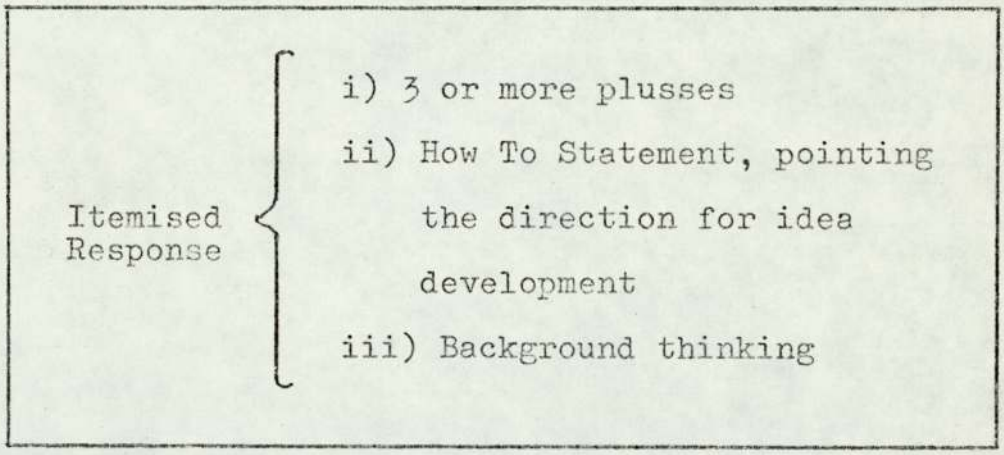
ITEMISED RESPONSE

Itemised Response (previously called Spectrum Policy) is a skill developed by Synectics Inc. to protect ideas and their contributors from destructive comments.

The skill is : When commenting on an idea, first say what is good about it - all the ways in which the idea is useful and helpful. Then point the direction for building on the idea, in the form of a How To Statement (e.g. How to make it cheaply), followed by your background thinking.



i) Specifying the useful features of an idea :

* provides data about the respondent's (usually the Client) values;
* suggests ways of developing the idea;
* gives the contributor encouragement;
* protects the idea from potentially destructive comments;
* helps the idea become the respondent's own idea where value is invented and built upon;
* directs the contributor to the areas for idea development.

ii) The How To Statement is the headline for the direction in which the respondent needs help in developing the idea into a solution.

iii) The background thinking gives the details of the How To Statement.

At first sight, the Itemised Response appears to be ritualised politeness. Put into practice, it proves to be a fundamental reversal of conventional behaviour, with powerful benefits. Our conventional response to any new idea is to spot the flaw in it, and point it out in no uncertain terms. The effect is usually to destroy the idea, and inevitably leads the contributor to 'prove' his idea, to seek revenge, to drop out of the conversation, etc.

Itemised Response identifies the useful elements of any idea. Every idea has value. The contributor receives satisfaction from recognition of the usefulness of his idea and feedback which tells him whether his point has been taken. If not, he may point benefits which have been overlooked. He also finds it much easier to accept the shortcomings after the benefits have been identified, and the weaknesses have been expressed as new problems to be resolved.

Group members have the opportunity to build on what are identified as useful elements of the idea. New lines of thought are triggered.Their attention is pointed to the new problem, expressed by the How To Statement. They are

encouraged to look for ways of overcoming this, while retaining the benefits of the original idea. This is the process by which half-formed ideas are developed into Possible Solutions.

Itemised Response is a deceptively simple concept. Appreciation of its value grows with practice. It has many applications outside problem solving.

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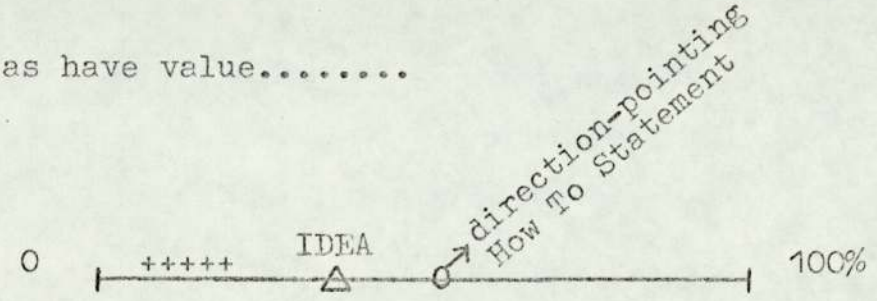
All ideas have value.....



Value of an Idea Continuum

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LITERATURE ON SYNECTICS

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* E.C.G. : Short Cut for conceptualising potential products : Gene Reilly. Food Product Development; October 1971.

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MEETING-ROOM REQUIREMENTS

The requirements for a Synectics session are :

* Comfortable chairs (with arm rests) for each individual;
* Ashtrays;
* Small (A4) notepads and biros for each individual;
* 4 easels or permanent racks to hold 4(2'x3') pulp pads;
* Crayons - wax, not felt-tip pens;
* Videotape Equipment : camera with zoom lens, tripod, VTR, monitor, tapes, micophone; and/or audiotape equipment.
* No tables, except for coffee or end tables to hold ashtrays, notes, etc.
* Nails on walls or masking tape.

The room should be well-ventilated and well lit. The ideal room is pleasant but not distracting, and approximately 20'x20'. Wall covering should be able to take masking tape.

There should also be an adjoining room of a similar size, with an identical number of chairs and a table for the monitor and VTR.

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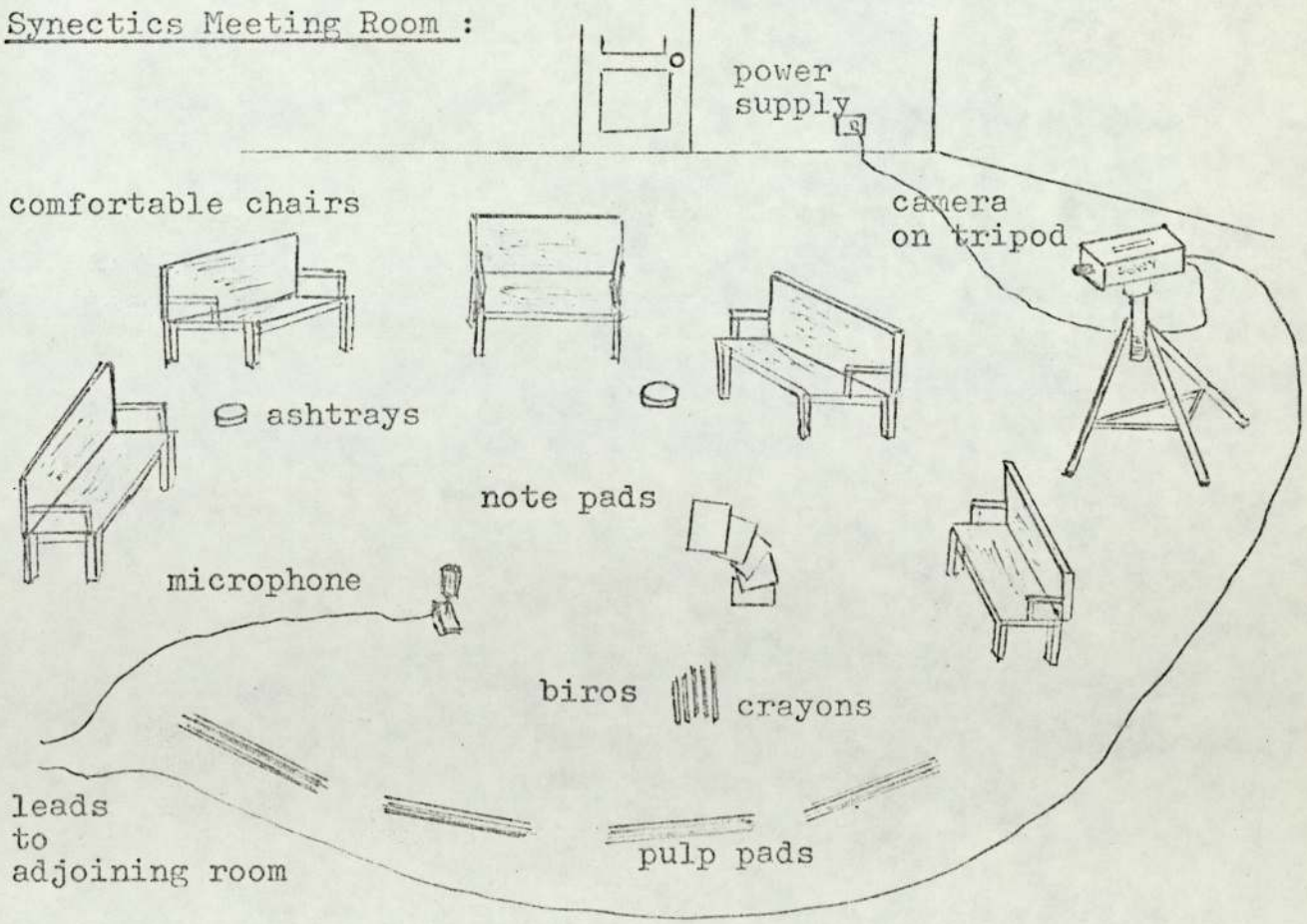
Synectics Meeting Room :



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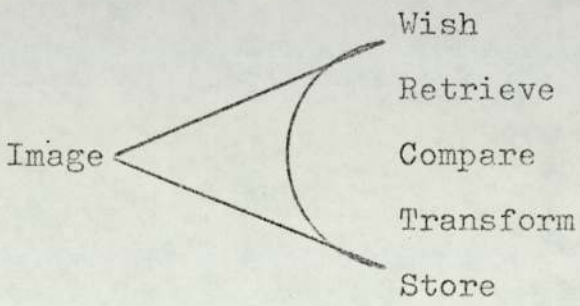
MINDSPRING THEORY Summary

Developed by George M. Prince.

CYCLES



THINKING ATTITUDES

Precise ⟷ Approximate

Logical ⟷ Non-logical

The Mindspring Theory is based upon the following elements : Wish, Retrieve, Compare, Transform, Store and Image. These thinking operations are used cyclically. The catalyst that makes all these operations fully effective is the ability to oscillate between a tolerance for approximation and a wish for precision.

IMAGE : While approximate thinking catalyses thinking, Imaging is the most important of the operations. Imaging displays several attributes -

* Images are full of rich detail and in this regard they display thought, sound and taste.

* Imaging aids retrieval. In Imaging practicality is mixed with imaginative speculation. This intermix provides a great opportunity to discover and invent.

EXAMPLE OF MINDSPRING THEORY

AS APPLIED TO THE THERMOS-CLOSURE PROBLEM

ELEMENT	EXAMPLE
WISH	I wish I could think of a new Thermos closure.
RETRIEVE	A spice-can closure is different.
COMPARE	It cannot be precisely like the spice-can slide.
TRANSFORM	I will modify the slide in size and material to fit the needs of the Thermos.
STORE	I have solved the problem and have a new idea which I put to use.
IMAGE	Probably at each step you saw with your mind's eye what you were thinking about.

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* Imaging is totally manipulatory.

* Imaging permits continuous comparison of ideas with the wished for outcome.

WISH : Wishing is a form of exploratory thinking and of goal setting. Because it is not concerned with reality it has the capacity for opening one's eyes to new possibilities. Wishing gives a temporary freedom from reality. This adds a frankly emotional component but also a powerful liberating element since it gives licence to think and feel without concerns about practicality. Wishing also helps to form more useful definitions of a problem or opportunity. Every problem has many facets and implications. A series of wishes that deal with every implication and facet enriches problem-solving activity.

RETRIEVE : This refers to the use of memory as an inner resource. Memory has billions of pieces of information covering or relevant to nearly every human activity or problem. Individuals need to recognise the value of stored experiences, for they constitute a rich source of problem-solving elements. However, fear of wrongness, confusion, and uncertainty tend to limit the efficiency of retrieval. Individuals may develop stategies to overcome these fears. Such stategies include : fantasising, doodling, jotting down apparently unrelated notes, etc.

TRANSFORM : Good Transforming involves an intense awareness of the freedom to Retrieve, Image, and mutate anything in any way an individual wishes. Solutions may bear no discernable relation to the original idea. Confusion, wrongness and uncertainty are used to advantage through the ability to change, modify, reform, alter, discard, and replace - in short, the ability to Transform.

COMPARE : Everyone has learned to compare everything they say or do with certain standards or norms that have been learnt or taught. Successful Comparing in problem solving involves contrasting both the useful and deficient aspects of an idea, and overcoming/filling the deficiencies.

STORE : Individuals take possession of new thoughts and ideas by connecting them to approximations they already possess. This enriches subsequent Retrieval, making them more effective problem solvers.

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NEW IDEAS ON CLIENTSHIP CONCEPT

TRADITIONAL DEFINITION

Within Synectics practice, Clientship has tended to have at least 3 distinct but overlapping meanings, in terms of -

i) Problem Owner

The Client is the problem owner in Synectics sessions. He has authority over content.

ii) Organisation Role

As applied within Synectics Inc. and Abraxas, a Client is a member of staff who has specific areas of action responsibility, for example, for Course place sales, administration, training, etc.

iii) Self

Each individual is responsible for his own behaviour. He 'takes care of himself' in his relationship with other individuals. This is the broadest of the 3 meanings, and is similar to Carl Rogers' concept of Client.

EXTENDED DEFINITION

The above three meanings may be incorporated into an extended definition of Clientship :

CLIENT : An individual who has ownership of

i) a problem or task;

ii) various organisational functions or duties.

Clientship comprises 3 interacting components :

i) Action Responibility;

ii) Power to Act;

iii) Freedom to Act.

Action Responsibility

This refers to the specific duties that an individual is obliged to carry out as a part of his organisational role. In fulfilling these duties he will encounter problems which he will have either sole- or shared-responsibility (ownership).

Power to Act

This refers to the resources an individual has recall to in carrying out his duties. Resources are either human, technical or financial. For example, a sales manager may have the resources of a secretary, computer facilities to maintain up-to-date sales records, an advertising budget, etc.

An individual's Power to Act is influenced by the availability of and access to resources.

Freedom to Act

This refers to an individual's ability to implement solutions or decisions without having those solutions or decisions blocked or negated. Constraints on an individual's Freedom to Act include "No's" from superordinates, limitations on the use of resources, mind set or dogmatism, etc.

The highly skilled problem solver has great Freedom to Act : he will overcome any blockages (human or otherwise) in order to achieve his goals.

THE GOOD, THE BAD AND THE UGLY.....

The 'good' Client is the individual who

i) is a highly skilled problem solver (good listener, open-minded, spontaneous, seizes and creates opportunities, experiments with the new, etc.);

ii) works well with, rather than against, other individuals;

iii) shows respect for other individuals;

iv) optimises the use of available resources - and creates new ones;

v) fulfills effectively his duties.

The 'bad' Client is the individual who

i) is a poor problem solver (bad listener, dogmatic, prejudiced, ignores his problems or delegates them to others to avoid responsibility, etc.);

ii) has frequent rows with others, rather than working to achieve consensus;

iii) makes negative judgements on the ideas, work and behaviour of other individuals;

iv) misuses his available resources;

v) fails to fulfill his duties or hinders the activities of other individuals.

'Ugly' Clientship may be divided into

* Puppet Clientship;
* Usurpation of Clientship.

These are best explained by an example of manager-subordinate relationships :

* Puppet Clientship

The manager gives to his subordinate certain areas of Action Responsibilty. However, the manager retains full-control of resources. The subordinate's Freedom to Act is curtailed by having to check out every decision, idea and solution with his manager. The manager's responses to the subordinate's suggestions are generally "No", "If I were you....", "Do it this way.....", etc. Consensus is a rare mode of behaviour.

In such circumstances, the subordinate is little better than the manager's puppet - having his strings pulled to carry out the manager's bidding. No recognition is given to the subordinate's creativity, self-respect and autonomy.

Yet if two individuals are to work together closely and effectively, the practice of 'good' Clientship must prevail - rather than one individual imposing his personal style on another individual. There must be some sort of shared control of the situation. There must be mutual respect. And above all,there must be consensus.

* Usurpation of Clientship

The subordinate is not carrying out a task as his manager would like. Instead of helping the subordinate, who may be having difficulty, the manager takes over the task activity. The manager's response might be "Don't do it like that.....", "The way it should be done is.....", etc. The subordinate is made to feel foolish.

A better response would be for the manager to offer help, to assist the subordinate to overcome any difficulties, and to work together accomplishing the task to a mutually-agreed standard. In this manner, the self-development of the subordinate is encouraged and an opportunity for cooperation is utilised.

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OTHER PROBLEM-SOLVING AND RELATED TECHNIQUES

In addition to Synectics methods, there are several problem-solving and related techniques :

1. Gestalt Methods

Developed by M. Wertheimer.

Problem solving involves insight relative to motivational and perceptual forces. Problems are incomplete structures, which lead to stress on individuals. Solutions require the completion of these structures.

2. Morphological Analysis

Developed by F. Zwicky.

This technique concentrates on the form and structure of the problem. The association of problem elements is the important invariant in generating a cluster of possible solutions. The solution is a system which comprises i) a set of properties; ii) a set of contituents; iii) the morphology - the relationship between the constituents.

3. Attribute Listing

Developed by R. Crawford.

This is a specialised form of Morphological Analysis, involving analysis of a product or process in terms of its functions or attributes.

4. Brainstorming Methods

Developed by A. Osborn and S. Parnes

This is usually a group problem-solving technique concerned with idea generation. The guidelines for the technique are :

i) Suspension of judgement : criticism is excluded during a Brainstorming session;

ii) 'Freewheeling' : the wilder the ideas the better for novelty;

iii) Quantity : the more ideas the higher the probability of success;

iv) Cross-Fertilisation : combine ideas to improve and to achieve a wider range.

Stages in Brainstorming

a) State the problem and discuss.

b) Restate the problem - "How to....."

c) Select a basic restatement and write down - "In how many ways can we....."

d) Brainstorm - Use a group of about 12 individuals
- Aim for about 100 ideas in 20 minutes
- Write up ideas on large pulp pads
- Give time for 'Silent Incubation'.

e) Wildest ideas - Convert them into a practical form.

f) Evaluation by - Quick scrutiny to identify winners
- Group ideas together, apply criteria and rank ideas accordingly.

g) Reverse Brainstorming - "In how many ways can this idea fail?"

5. Kepner-Tregoe

Developed by C. Kepner and B. Tregoe.

This is a logical approach for solving problems. The procedure involves specifying the problem : identifying what the problem is and is not. There are three stages :

i) Problem Analysis - is it a deviation from the norm?
ii) Decision Analysis - is it a choice between alternatives?
iii) Potential Problem Analysis - is it a plan that requires protection?

6. P.A.B.L.A.

Problem Analysis by Logical Approach

Developed by G. Terry and R. Latham.

This is an interrogation technique by which the 'true needs' of a problem situation are established from a critical analysis of the problem requirements. A set of charts are used to develop ideas and record information.

7. A.I.D.A.

Analysis of Interconnected Design Areas

After J. Morgan.

This is a systematic technique for problem synthesis. It permits a design group to manipulate the interdependencies of the various areas of a design problem. Critical decisions affecting the design are identified as are the range of options existing within each decision area.

8. F.D.M.

Fundamental Design Method

Developed by E. Matchett.

Matchett argues that design should be seen as 'the optimum solution to the sum of the true needs of a particular set of circumstances.' F.D.M. incorporates several procedures such as the use of cubes, matrices, charts, including some early 1960's Synectics-type routines.

9. Bionics

Developed by E. Small.

This is a system design technique, based upon the study of the structure, mechanisms and functions of plants and animals. There are three essential stages :

i) Study and description of the biological mechanism;

ii) Translation of the biological description into mathematical or logical models;

iii) Development of hardware models.

In this manner, new ideas for man-made systems come from analogous systems found in nature.

10. Creative Analysis

Developed by T. Rickards.

This technique is eclectic, combining different elements of :

i) Synectics methods;

ii) Attribute Listing;

iii) Brainstorming;

iv) Morphological Analysis.

11. Critical Examination :

PRESENT FACTS		ALTERNATIVES	PROPOSALS
1. What is achieved?	Is/it necessary? YES/NO What is the need? How does this need arise?	Can the need be eliminated? Can the need be modified? Can the need be achieved in another way? HOW?	What should be achieved? NOW (interim period) LATER
2. WHEN is it done?	WHY must it take place at this stage?	WHEN could it take place?	WHEN should it take place?
3. Where is it done? Location : Dist. from preceding/ succeeding activity : Quantity handled :	WHY does it take place there? Is this the optimum quantity to handle?	WHERE else could it take place?	WHERE else should it take place?
4. WHO does it? (a) Men or Women; (b) Grade; (c) No. of full-time: No. of part-time:	(a)Is it a man/woman's job? (b)Is this the lowest grade possible? (c)Is this loading correct?	WHO else could do it? (a) (b) (c)	WHO else should do it?
5. HOW is it carried out? Outline process chart :	Are these steps necessary?	Can any step be changed, eliminated, combined or simplified?	HOW should it be done? Outline process chart of proposed method?

12. Transactional Analysis

Developed by Thomas Harris and Eric Berne.

Transactional Analysis is an approach for explaining the interpersonal transactions that occur between individuals.

There are 3 basic ego states :

i) Parent : the attitudes and behaviour incorporated from external sources, such as parents. The Parent state is frequently expressed towards others in prejudicial, critical and nurturing behaviour.

ii) Adult : the rational and adaptable attitudes and behaviour, based upon realistic perspectives.

iii) Child : the infant-like attitudes and behaviour arising from early childhood experiences.

Within Transactional Analysis there are 4 modes of interaction :

i) I'm O.K. - You're not O.K.

An individual attempts constantly to prove that he is 'right' and that other individuals are 'wrong'.

ii) I'm not O.K. - You're not O.K.

An individual shows low esteem for himself and for other individuals. He feels incompetent and neglected, prefering to avoid interpersonal interactions.

iii) I'm not O.K. - You're O.K.
An individual devalues whatever he does and regards other individuals as 'better' than himself.

iv) I'm O.K. - You're O.K. This is the ideal situation, where the principal characteristics are effective cooperation and teamwork. There is mutual respect and high group cohesiveness.

13. Group Therapy

The treatment of individuals in groups. It may be individual-centred, i.e. treating one person in a group, or group centred, i.e. treating the group as a unit. Treatment is usually based on the facts that groups provide :

i) a realistic life situation;

ii) many common problems;

iii) a bond between members and a desire to help each other;

iv) a controlled familial experience;

v) mutual acceptance, affection, respect, and helpfulness.

The main schools of group therapy are :
Psychoanalytic; Adlerian; Rogerian; Gestalt; General Semantics Approach; Moreno (Sociometry).

14. Laboratory Approach

This stems from the inter-group relations workshop held in Connecticut (1946), which developed into the National Training Laboratory for Group Development (N.T.L.) at Bethel, Maine, in 1947. Its main tool is the T. Group :

i) It is an experience in creating a miniature society;

ii) It is oriented towards working with processes the emphasise inquiry, exploration and experimentation with behaviour;

iii) It is oriented toward helping members to learn;

iv) It is oriented toward developing a psychologically safe atmosphere that facilitates learning;

v) What is learned is largely determined by its members, although a professional 'trainer' is usually available to provide guidance.

15. Organisational Development Groups

These evolved in the early 1960's : as a modification of the basic T. Group. Their rationale was that our day-to-day behaviour is a product of the pressures due to our roles in the organisations in which we work. If training is to be relevant to performance within a particular organisation, then it needs to be done within that organisation. Development of the organisation as a team is the goal rather than of the individual as a person. If you assembled for discussion of here-and-now behaviour an entire work group consisting of a manager and his subordinates, or a school headmaster and his department heads, the result would be an organisational development group. The leader of the group is likely to be the senior man present rather than the external consultant or trainer. The external consultant's role will depend on the needs of the group, but it most likely covers questions and comments about existing procedures.

16. Pairing

This is a supportive technique by 2 group members which involves a collusive agreement of each to back up the moves of the other. It is one method by which a group member who is not too confident of his ability to put forward his point of view, either verbally or otherwise, or is not certain of the reception he may get when he does, looks for and gets support from another member whom he suspects of maintaining a sympathetic viewpoint.

It can be useful in bringing out otherwise hidden ideas, but it can also be used to defeat the growing purpose of the group. It is a temporary subgroup formation or alliance.

17. Psychodrama

Moreno, elaborating on the cathartic effects of Greek tragedy and of custom, folklore, and ritual drama, developed the concept of Psychodrama. There are many procedures but the basic idea remains constant in all. That is drama allows expression of feelings attitudes which have long been suppressed and hidden, and that such expression frees the individual from the pressures of maintaining his lack of conscious awareness of their influence.

Psychodrama is used mainly for disturbed patients in a hospital or clinic setting. In its most common form a patient selects a significant period of his life and casts other patients in the roles of the others involved with him. Sufficient information is given about the roles for the patients to play them effectively, frequently drawing largely on their own experience in a similar role. The drama is then played out before an audience who join in critical discussion at the end. Role changes and reversals can be used to highlight certain interactions. The main function of the drama is to spotlight for the patient a projected image of his behaviour outside himself so that he can look at it and hopefully learn about himself.

18. Sociodrama

This is a form of role-play in which a prepared drama is staged, based upon a particular social problem. Two basic effects are involved :

i) therapeutic, where the problem is concerned with personal factors, e.g. relationships, and the learning which derives from the performance is instrumental in enhancing the personal awareness and in increasing adaptive behaviour;
ii) educational, where the problem is concerned with possible solutions to social problems and the drama is used as an attempt to see how each solution would appear in real life.
A frequent spin-off benefit of any Sociodrama is enhanced understanding by each participant of the resources at his command and also of the way other people may feel..

19. Sensitivity Training

This involves experienced-based learning : members work together in small groups over a period of time, learning through analysis of their own experiences, feelings, reactions, perceptions and behaviour. Each member is responsible for his own learning. The trainer's role is to facilitate the examination and understanding of experiences within the group. Members are encouraged to conceptualise about their group experience. A person is free to learn when he establishes authentic relationships with other people, increasing his self-esteem and decreasing his defences. Members acquire new skills in working with people and examine the value system on which they are based.

20. Training Groups

Otherwise called T. Groups or Sensitivity Groups. The members, usually strangers, meet in a setting away from outside distractions for periods up to 10 days. The leader encourages them to look at the way their behaviour is affecting one another on the basis that their effectiveness as individuals is intimately bound up with their relationships with others. Members are encouraged to talk freely and openly about all aspects of their relationships with others.

Combining Different Techniques

Each of the above techniques may be combined with or without Synectics methods to offer new options :

Examples -

* Synectics and Brainstorming

Brainstorming idea-generating procedures may replace the Idea-Paraphrase-Itemised Response routine.

* Synectics and Morphological Analysis

Possible Solutions from Synectics sessions may be arranged in terms of a set of properties and constituents.

* Synectics and P.A.B.L.A.

The P.A.B.L.A. technique may replace the Analysis after the P.A.G.

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See 'Laboratory Approach' reference.

PLANNING MEETING CHECKLIST FOR LEADERS

Principal points to cover :

* Establish P.A.G. - a one-sentence problem statement.
* Establish Analysis - Background to the problem;
  How a problem for the Client;
  Past efforts/thoughts;
  Power to act;
  Ideal Solution.
* Establish Client's Criteria of Success, i.e. what does the Client want from the session. For example : Several concepts, or a novel highly-developed solution. Depending on the Client's criteria of success, the Leader and Client may plan accordingly, and decide whether to use the Excursion procedure.

Guidelines for Planning

* Avoid questions.
* Help the Client to formulate the P.A.G. and Analysis, rephrasing as necessary, so that these may be presented in headline form as soon as the session starts.
* Avoid problem solving in the Planning Meeting.
* Keep to your roles : Leader controlling Process, Client controlling Content.

Additionally, when working with an untrained Client :

* Avoid jargon.

* Check the history of the problem.

* Check who else will be involved after the session to ensure realistic Next Steps.

* Keep some options available as to how you will use Process and time.

* Cover the stages of the Synectics Problem-Solving Scheme, giving rationale and how it will help the Client, i.e. what is in it for him.

* Ensure that the Client is comfortable with the Process and what he is expected to do in the session.

* Explain the roles of Client, Leader and Participant.

* Consider group composition and size : who the Client would ideally like in the session; for example, some individuals familiar with the Content, and others who are completely fresh to the problem area.

PERSONAL NOTES - Other points to cover:

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QUESTIONS

Questions are regarded often as a useful form of communication. This is true to some extent. However, they may also have a zero or negative effect in meetings. The difficulty with questions is two-sided : how questions are intended and how they are perceived.

Destructive intent may sometimes lurk behind a question. For example, there is the type of question that begins - "Do you mean to say that.....?" In such cases the tone of voice used with these words is intended to put down an idea. It places the onus of 'proof' of an idea's value on the contributor of that idea, with no apparent participation by the questioner.

Another kind of intention involves a question that masks an idea. For example, when an individual describes a problem and another individual responds with a detailed question. Something will have stimulated that question. Since most individuals respond to problems with ideas and half-formed thoughts, it is more explicit to hear the thought itself rather than a question, which has been distilled and shaped by an editing process.

The other side of questions involves perception. Individuals may freeze or cringe in response to a question, and

especially to a barrage of questions. Traditional educational techniques use questions to sharpen the competitive environment as well as reinforcement of learning. The results of this type of conditioning may lead to a 'need not to fail' - to make every answer the "right" one. The effect is that individuals react by hesitating in responding or censoring. They may even spend energy to discover the answer the questioner wishes to hear. In these situations, pleasing the questioner (superordinate manager, teacher, etc.) becomes more important than a honest joint search for new and useful information, ideas, solutions, etc.

Another perceived effect of questions is that they may limit thinking. Questions are helpful where an individual wishes to focus upon a particular point, and unhelpful where speculation is required.

I.R. to Questions :

+	Ø
+ to elicit information + to contribute to a dialogue + to help sharpen an idea + Questions form the basis of : i) Critical Incident Problem-Solving Tecnique; ii) Carl Rogers' Reflective-Questioning Technique (used widely in Psychotherapy).	Ø to limit perspective where speculation is required Ø to put people on the defensive Ø to obscure rather than clarify potential areas for investigation Ø to insult an individual Ø to destroy an idea

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ROLES

There are 4 roles incorporated within Synectics methods :

1. Leader
2. Client
3. Participant

} Problem-Solving Roles

4. Coach

1. LEADER

The role of the Leader is to control Process only. He is not involved in the Content of the session.

Specifically, his functions are :

i) To plan with the Client his use of the Synectics Problem-Solving Scheme, with or without the Excursion. The Client briefs the Leader on the problem during this Planning Meeting. The Leader should help the Client formulate the P.A.G. and Analysis, as necessary.

ii) To start the session.

iii) To control during the session the use of the Synectics Problem-Solving Scheme and related procedures.

iv) To influence the contributions of the Client and Participants. For example, during the generation of How To Statements he may ask silent Participants to offer their thoughts.

v) To record on large pads the P.A.G., How To Statements, material from the Imaging part of the Excursion, Possible Solutions, Next Steps and any other material he feels should be noted or is requested by the Client to note.

vi) To control the use of time.

vii) To end the session.

2. CLIENT

The role of the Client is to exercise authority over the Content of his problem.

Specifically, his functions are :

i) To assist the Leader plan his use of the Synectics Problem-Solving Scheme, with or without the Excursion. He briefs the Leader on the problem, and with him formulates the P.A.G. and Analysis.

ii) To act as Participant.

iii) To select a How To Statement for the Leader and Participants to focus upon for idea development. Also he gives a Mini-Analysis.

iv) To Paraphrase ideas offered by other Participants.

v) To give Itemised Responses to those ideas.

vi) To decide when a Possible Solution is reached and what constitutes that Possible Solution. He also states his Next Steps for implementing that Possible Solution.

vii) To state when he has sufficient Possible Solutions so that the Leader may end the session.

3. PARTICIPANT

The role of the Participant is to act as resource to the Client.

Specifically, his functions are :

i) To use the In-Out Listening skill.

ii) To offer How To Statements to the Client for his tacit evaluation;

iii) To offer ideas to the Client for his verbalised evaluation, using Itemised Response.

iv) To contribute material during the Excursion.

4. COACH

The role of the Coach is to evaluate (specific incidents during) Synectics sessions using an Itemised Response. His evaluation may be offered to the group members for discussion.

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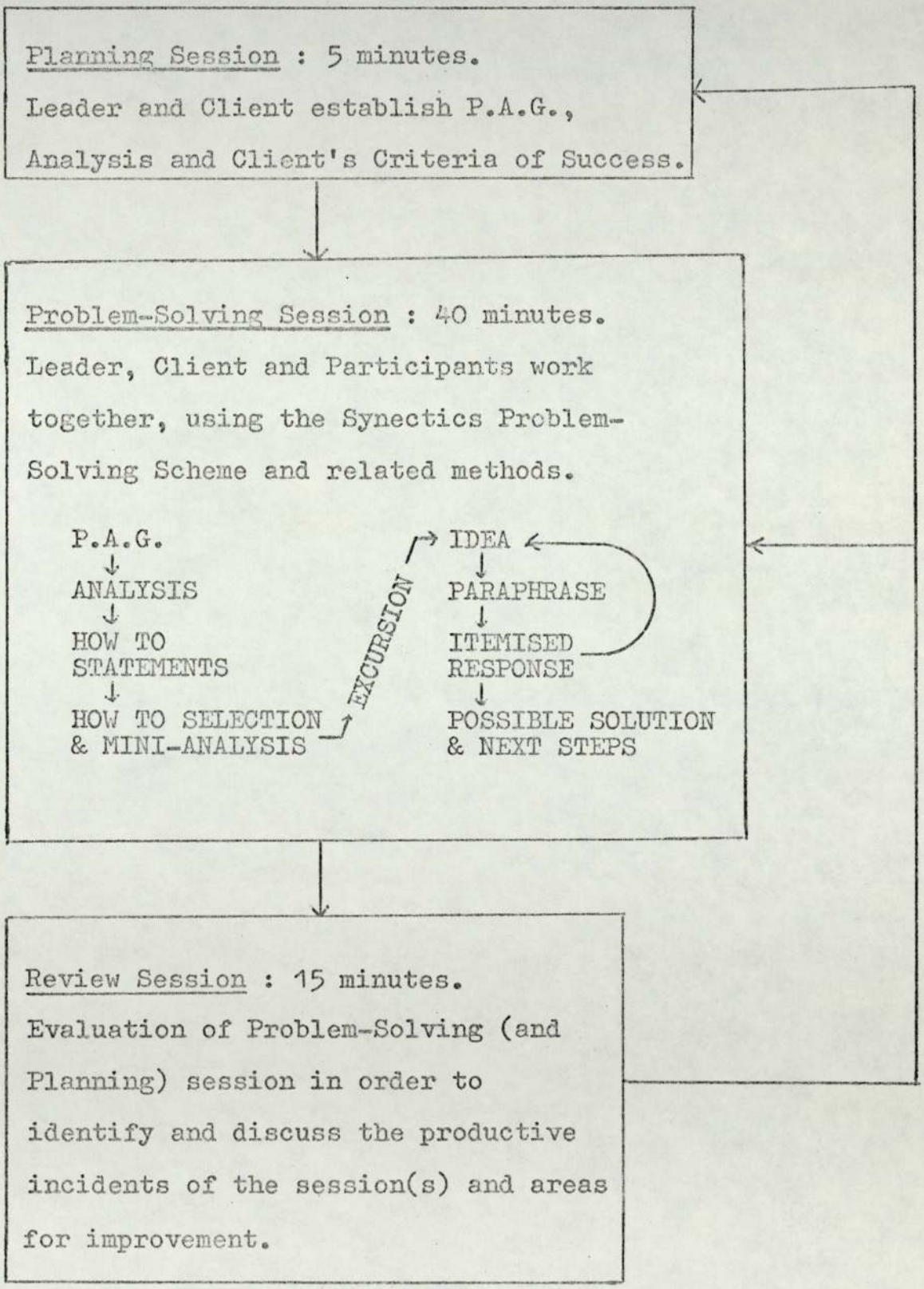
SYNECTICS MEETING STRUCTURE

Guidelines for 1 hour meeting -



SYNECTICS METHODS for Basic Course

MEETING ANALYSIS : Identification of meeting elements; isolating common meeting elements, using video- or audio-tape recording, and speculating as to their effect on the probability of success; distinguishing between Process and Content of meetings and focusing on either one at any given time.

MEETING ROLES : Recognising the distinction between Client and Leader, and their respective responsibilities for Content and Process. Understanding the role of Participant in working for and with the Client as a resource. Using a Coach to evaluate sessions.

LISTENING : Understanding the dynamics of listening, including : In-Out Listening, the rehearsal effect, and other barriers to effective listening.

PARAPHRASE : Checking out one's own understanding of what others have said to facilitate responding and building in problem-solving sessions.

HEADLINE : Stating the main elements of one's own contribution first, followed by the background thinking.

ITEMISED RESPONSE : Identifying 3 or more positive (useful and helpful) elements of an idea and one How To Statement pointing the direction for idea development, followed by the background thinking.

USE OF NOTE PADS : Constantly using individual note pads in meetings (In-Out Listening) to record thoughts, doodles, ideas, etc.

USE OF PULP (EASEL) PADS : The recording of material by the Leader in front of the rest of the group.

GENERATION OF HOW TO STATEMENTS : Phrasing and rephrasing pieces of the P.A.G. and Analysis into How To Statements; initial period of speculation.

BUILDING : Listening carefully to an idea and adding to it in a sequential manner. This process calls for an ability to suspend one's own unrelated ideas and judgemental responses, at least for the moment.

CREDITING : Making verbal connections back to a particular group member or idea that triggered one's own thought.

QUESTIONS : Understanding the various effects questions may have; difference between intent and effect; practice in stating the reasons behind questions...."What I'm thinking is....."

IMAGING : Using mental pictures to bring newness to solving problems; checking out one's own image with the images of other group members to ensure sequential building and conflict avoidance.

ABSURD SOLUTIONS/CONNECTIONS : Creating initially impossible courses of action that are sparked off by speculative material (Imaging).

FORCE FIT : Working an Absurd Solution into a practical course of action, while maintaining the newness and novelty of an idea.

POSSIBLE SOLUTIONS : Acknowledging that an idea is acceptable to the Client as a Possible Solution, because it meets the criteria of (i) appeal; (ii) feasibility; (iii) newness. Also the Client states his Next Steps for implementing that Possible Solution.The distinction of a Possible Solution over an idea. The recording of an 'Investigate Possible Solution'.

AGENDA MEETING FORMAT : Application of Synectics methods to non problem-solving activity; useful for committee meetings.

CONSENSUS MEETING FORMAT : Rotating Clientship until a Possible Solution shares consensus approval.

INFORMAL SYNECTICS : Making use of Synectics methods when not formally called upon to conduct a Synectics session; using the 'meeting' in one's head as much as possible.

ONE-ON-ONE MEETING FORMAT : Using Synectics methods in a two-person situation, with Client/Participant and Leader/Participant.

ONE-IN-ONE MEETING FORMAT : Using Synectics in a paper-and-pencil session.

IMAGE EXCURSION : The steps of Word Association; Building the Image from a word; and making an Absurd Solution/ Connection from that Image.

P.A.G. : Ability to state the crux of the problem in a concise statement.

ANALYSIS : 3-5 minute description of a problem area, emphasising : Background; How a problem for you; What tried and thought of; Power to act; What wished for in terms of a solution (Ideal Solution).

MINI-ANALYSIS : Priority decision by the Client. Client guides the content of the session by informing the Leader which How To Statement is to be developed. Specific steps of : selecting the How To Statement; saying loosely what is appealing about it; and where it needs developing.

SPLIT-SHEET ITEMISED RESPONSE : Writing an analysis of a session; identifying the plusses on the left-hand side of the sheet and How to Statements on the right-hand side; recording tape numbers in order to pinpoint specific incidents from that session.

COACHING : Singling out three plusses to mention to the group and two How To Statements in order to improve future sessions.

SKIDDING : Using the tape in a coaching session to highlight certain incidents in the session by going to a specific number on the tape; discussing the incident using an Itemised Response.

SYNECTICS is -

i) a set of interpersonal skills;

ii) a problem-solving technique;

iii) a style of working with....;

iv) a philosophy of work, built around the concept of Clientship;

v) An Experience.

.....

SYNECTICS

PROBLEM-SOLVING

AND RELATED TECHNIQUES

1. Synectics Problem-Solving Scheme
   1.1 Basic Flowsheet
   1.2 Group Meeting-Flowsheet
2. Synectics Problem-Solving Scheme, with Imaging Excursion
   2.1 Doodling Excursion
   2.2 Rorschach Ink-Blot Excursion
3. One-on-One Meeting Format
4. One-in-One Meeting Format
5. Consensus Meeting Format
6. Agenda Meeting Format
7. Making the Strange familiar, making the Familiar strange

SYNECTICS PROBLEM-SOLVING SCHEME

Basic Flowsheet

P.A.G. Client gives a one-sentence problem statement. Written up by Leader. (1 min.)

ANALYSIS Client gives : background to his problem; what has been tried and thought of to date; power to act; why a problem for him; ideal solution. (3-4 min.s)

HOW TO'S Client and Participants restate pieces of the problem, wishes, speculations, images, various facets and approaches to the problem. Headlines written up by the Leader as Client and Participants fill in background. NO EVALUATION. (7-9 min.s)

SELECT HOW TO AND GIVE MINI-ANALYSIS Client selects one How To for the group to focus upon : a priority decision. Says : what is appealing and where help is needed with the How To. (1-2 min.s)

IDEA Participant offers one idea.

PARA-PHRASE Client gives his understanding of the idea. + Check-out.

ITEMISED RESPONSE Client states 3 or more plusses for the idea, and points the direction for idea development with a How To Statement followed by his background thinking.

SPIRAL THROUGH IDEA, PARAPHRASE AND ITEMISED RESPONSE CYCLE UNTIL A POSSIBLE SOLUTION IS REACHED.

POSSIBLE SOLUTION AND NEXT STEPS Client states one plan of action for implementation, which is
i) new;
ii) feasible;
iii) appealing.
Client also states his Next Steps for carrying out his Possible Solution. Written up by Leader.

Timings are approximate for a 30 minute session.

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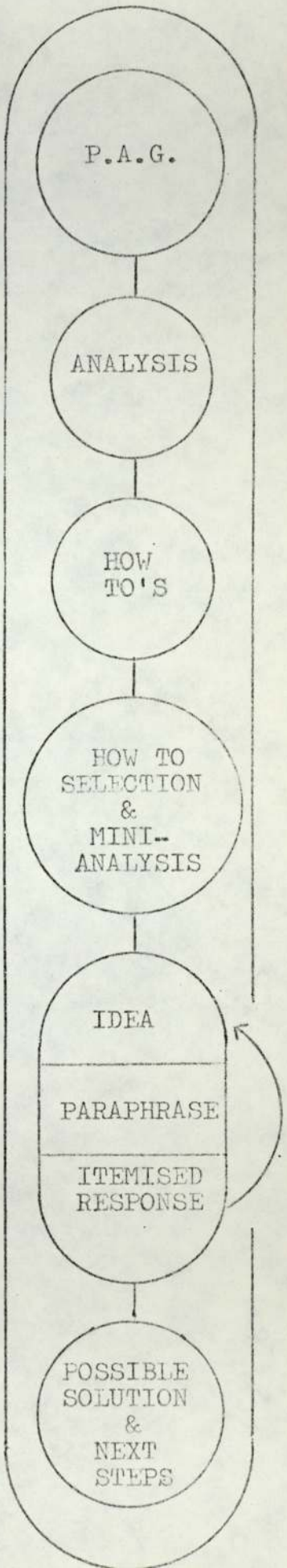

SYNECTICS PROBLEM-SOLVING SCHEME

Group-Meeting Flowsheet

CLIENT	LEADER	PARTICIPANTS
PROBLEM AS GIVEN Gives one sentence statement, starting with an active verb.	Writes up P.A.G.	Listen actively, noting key-words of reactions to the Client's P.A.G. and Analysis : ideas, wishes, alternative definitions of the problem, challenges to the Client's viewpoint, etc.
ANALYSIS States - background; how a problem for him; what tried and thought of to date; power to act; what wished for from session/ ideal solution.	Checks that all aspects of the Analysis have been covered.	
HOW TO STATEMENTS Contributes statements in the form of 'How to.....', especially those expressing wishes and pointing the direction for Participants to aim their How To Statements . NO EVALUATION	Writes up Headlines of the How To Statements , prompting as necessary for background thinking.	Contribute their reactions and notes as How To Statements ; Headline first, then background thinking. NO EVALUATION

CLIENT	LEADER	PARTICIPANTS
HOW TO SELECTION & MINI-ANALYSIS Selects one How To Statement as an attractive approach to the problem : says what is appealing about it and where help is needed in developing it.	Checks that both parts of the Mini-Analysis are covered.	Listen actively and note down any ideas.
IDEA DEVELOPMENT STAGE		
	Asks for an idea on the selected How To Statement.	IDEA Propose a course of action; may build on the initial idea.
PARAPHRASE Feeds back his understanding of the idea.	Asks Client for a Paraphrase; checks that the idea has been understood and that no pieces have been missed or misunderstood.	Listen actively. Idea proposer corrects any misunderstanding and repeats any omitted pieces of the idea, as necessary.
ITEMISED RESPONSE States 3 or more plusses for the idea, and one direction-pointing How To Statement, followed by his background thinking.	Asks for an Itemised Response.	Listen actively for other ways of achieving the plusses and dealing with the 'How To' from the Itemised Response. Note down any ideas which retain the the plusses/are on track for the 'How To'.

CLIENT	LEADER	PARTICIPANTS
REPEAT IDEA, PARAPHRASE, ITEMISED RESPONSE SPIRALLING CYCLE UNTIL A POSSIBLE SOLUTION IS REACHED.		
POSSIBLE SOLUTION Tells the Leader when a Possible Solution is achieved : an acceptable course of action which he is able to implement without further help from the group.Criteria: - new; - feasible; - appealing. Also states NEXT STEPS : what he will do to carry out his Possible Solution.	Writes up the Possible Solution in the Client's own words and checks out the Possible Solution Criteria. Also writes up the NEXT STEPS.	
THE SESSION MAY END HERE, OR, CONTINUE TO DEVELOP MORE POSSIBLE SOLUTIONS; FOR EXAMPLE, BY RETURNING TO ANOTHER HOW TO STATEMENT, DEPENDING UPON THE CLIENT'S PREFERENCE AND PERMITTED TIME.		

SYNECTICS PROBLEM-SOLVING SCHEME

WITH

IMAGING EXCURSION

P.A.G. Client gives a one-sentence statement of his problem.
Written up by the Leader.

ANALYSIS Client gives : background information; why a problem for him; what has been tried and thought of to date; power to act; ideal solution/what wished for from this session ("it would be nice if...").
Participants listen, making key word notes of their reactions.

GENERATION OF HOW TO STATEMENTS (GOALS/WISHES)

Client and Participants restate pieces of the problem, wishes, speculations, images, various facets and approaches to the problem.
Headlines written up by the Leader as Client and Participants fill in the background. -NO EVALUATION-

HOW TO SELECTION & MINI-ANALYSIS

Client selects one 'How To' for the group to focus upon.
A priority decision. He says loosely what is appealing about it and where help is needed in developing it.

INTRODUCTION OF IMAGING EXCURSION
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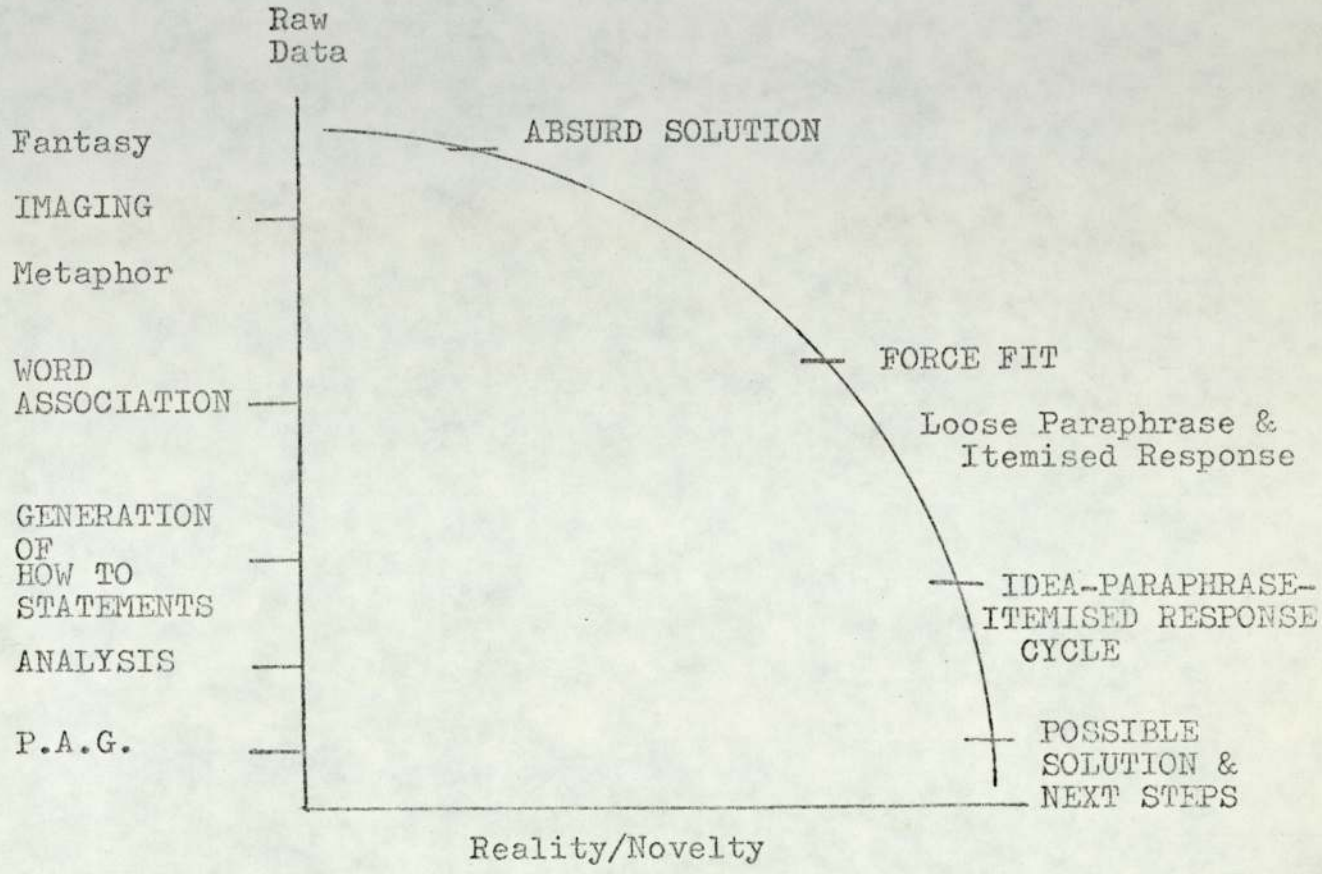

SYNECTICS

PROBLEM-SOLVING

SCHEME

with IMAGING EXCURSION

IDEA PURGE Leader asks Client and Participants to write any ideas on their small pads. He clears the large pads.

WORD ASSOCIATION Leader selects one word from the chosen 'How To'. He asks the Client and Participants to offer (in rotation) one-word mental connections to that word. Leader writes up the words. After two or three rotations, he selects a word that he perceives to be unconnected to the problem.

IMAGING Leader asks the Client and Participants to develop silently mental pictures around the newly-selected word. Having developed their pictures, he asks for a Participant to offer his pictures. Then the Client and other Participants build on their pictures as the Leader writes them up. After writing three to four pages of material, the Leader stops the building.

ABSURD SOLUTION Leader asks the Client and Participants to develop silently from the Imaging material courses of action which i) defy reality;

ii) are connected to the selected 'How To';

iii) provide a 'happy ending' for the Client.

Leader asks for one Absurd Solution from a Participant. Client and Participants build upon and mould it, using material from their Absurd Solutions, material from their Imaging, new pieces of fantasy, etc. as they wish.

FORCE FIT Leader asks the Client and Participants to make gradually the developing Absurd Solution more realistic.

LOOSE PARAPHRASE & ITEMISED RESPONSE Leader asks the Client to feedback approximately the principal themes of the Force Fit material and to say approximately what is appealing about the themes.

END OF EXCURSION

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The session moves into the IDEA-PARAPHRASE-ITEMISED RESPONSE procedure, spiralling towards a Possible Solution.

IDEA Participant offers a course of action.

PARAPHRASE Client feeds back his understanding of the idea. The feedback is checked out with the Participant who offered the idea.

ITEMISED RESPONSE Client states three or more plusses for the idea, and points the direction for idea development with a How To Statement, followed by his background thinking.

Repeat Idea-Paraphrase-Itemised Response cycle until a Possible Solution is reached.

POSSIBLE SOLUTION Client states one acceptable course of action for implementation, which

i) is feasible;

ii) is appealing;

iii) has newness.

Client states also his NEXT STEPS for implementing that Possible Solution. Leader writes up both the Possible Solution and Next Steps.

The session may end here,or, for example, the Client may select another How To Statement for development with or without the Excursion procedure.

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DOODLING EXCURSION

Developed by Jon Prince.

1. The Client picks How To Statement and gives Mini-Analysis.
2. The Leader turns face down the sheet with the How To.
3. The Leader starts a Doodle on a large pad, but does not complete it. The Doodle should be ambiguous. He hands the crayon to a group member who continues the Doodle.
4. The member passes the crayon to another member who develops the Doodle further. This procedure continues until every member has had an opportunity to add to the Doodle.
5. The Leader tears off the sheet and puts it on the floor. He asks the members to walk around the sheet and to formulate quietly an Image suggested by the Doodle.
6. The group members sit down.
7. The Leader asks for a group member to describe his Image. Other members build.
8. The Leader turns over the sheet with the How To and asks the members to develop an Absurd Solution.
9. Remainder of the procedure as for Imaging Excursion.

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RORSCHACH INK-BLOT EXCURSION

Developed by Bernd Rohrbach.

1. The Client picks How To Statement and gives Mini-Analysis.
2. The Leader turns face down the sheet with the How To.
3. The Leader puts on an easel a blow-up of a Rorschach Ink Blot.
4. The Leader asks the members to formulate quietly an Image suggested by the Ink Blot; 2-3 minutes.
5. The Leader asks for a group member to describe his Image. Other members build.
6. The Leader turns over the sheet with the How To and asks the members to develop an Absurd Solution.
7. Remainder of the procedure as for Imaging Excursion.

ONE-ON-ONE MEETING FORMAT

-A- LEADER/PARTICIPANT	-B- CLIENT/PARTICIPANT
1. Ask for P.A.G.	
2. Note P.A.G. As you listen, convert B's Analysis into How To Statements. Make sure that B covers all aspects of the Analysis.	Give P.A.G. and Analysis : - background - how a problem for you - what tried & thought of - power to act - ideal solution/what wished for from this session?
3. Read out 'How To's' and ask B to add to the list.	Listen for and note 'How To's' triggered by A's list. Read out your list. Make a key-word note of those of A's 'How To's' you wish to pursue.
4. Ask B to select a 'How To' to work upon.	Choose the 'How To' that you would like to develop first.

-A- LEADER/PARTICIPANT	-B- CLIENT/PARTICIPANT
5. Ask B for Mini-Analysis: what is appealing about the chosen 'How To', and where help is needed in developing it. As B explains, listen for/ think of an idea (a way to accomplish the 'How To').	Tell A loosely the reasons for your choice, and where you need help with the 'How To'.
6. Offer an idea. Ask B for a Paraphrase. If necessary, repeat any pieces that have been missed or misunderstood.	Feedback your understanding of A's idea.
7. Ask for an Itemised Response : 3 plusses and a direction-pointing 'How To', followed by the background.	Note : Ideas may be perceived in two ways - basic (generic) concept along with specific suggestions. In looking for plusses, it is important not to lose sight of the basic concept by focusing too narrowly on specifics.

-A- LEADER/PARTICIPANT	-B- CLIENT/PARTICIPANT
8. BUILD ON THE IDEA, USING THE IDEA, PARAPHRASE AND ITEMISED RESPONSE SPIRALLING CYCLE (STEPS 6 AND 7 ABOVE).	
9. As each 'How To' is dealt with, check whether the idea is a Possible Solution. If a Possible Solution has been reached, write it down in B's own words. Also write down B's Next Steps.	Keep the Possible Solution Criteria in your mind : - newness - feasibility - appealing. When a Possible Solution is reached, also state your Next Steps.
10. IF TIME REMAINS, GENERATE ADDITIONAL POSSIBLE SOLUTIONS (e.g. for the same or different How To Statements).	

ONE-IN-ONE MEETING FORMAT

The purpose of this exercise is

* To provide you with practice in using elements of the Synectics problem-solving methods;
* To have you experience how the methods may be used on your own, without the need for a group.

Working through a problem on your own is useful in several ways. For example, it helps you to

* Determine whether you need to call a meeting;
* Clarify your own thinking prior to calling a meeting;
* Evaluate and make new additions to your existing ideas;
* Generate new alternative courses of action.

When working alone, your existing ideas may keep you sometimes from thinking of new alternatives. Some useful pointers that may help you to increase the probabilty of coming up with new thoughts include

* Early in the exercise (during the Analysis), write down any existing ideas. Making a note often helps set aside these ideas temporarily.

* During the 'How To Statements' (Goals/Wishes) stage, use not only facts but also your feelings, thoughts and opinions about the problem. Often this helps to uncover aspects of the problem previously overlooked.

* Add any wishful and speculative 'How To's' to your list.

* Put your existing ideas to rest by developing them into Possible Solutions, using the Itemised Response. Look for opportunities to add new dimensions to existing ideas, by adding new modifications and refinements.

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SYNECTICS WORKSHEET One-in-One Meeting Format

P.A.G. : Write a one-sentence statement of your problem :

To..._____

_____

ANALYSIS : Make key word notes of your Analysis covering

* Background Information;
* How a problem for you;
* What has been tried and thought of to date;
* Power to act;
* Ideal Solution/what wished for from this exercise.

_____

_____

_____

_____

_____

GENERATION OF HOW TO STATEMENTS (GOALS/WISHES) :

Convert your key word notes into How To Statements. Generate as many 'How To's' as possible and write them down.Add some 'How To's' that are wishful and speculative. This is useful in opening up new and different lines of thought.

1. How To...._____
2. _____
3. _____
4. _____
5. _____
6. _____

8. _____

9. _____

10. _____

11. _____

12. _____

13. _____

14. _____

15. _____

16. _____

17. _____

18. _____

19. _____

20. _____

* Use additional sheets,as you wish, to produce further 'How To's'.

HOW TO SELECTION & MINI-ANALYSIS :

Look through the list of 'How To's' to see what 'start ideas' are triggered by them.

If no ideas are triggered immediately, choose the'How To' that appeals most. Think about the reasons why it appeals and where you need help in developing it.

Selected'How To' : _____

Why it appeals to me : _____

Where help is needed : _____

IDEA(S) :

Write down any ideas you think of, and select one to work on.

_____

_____

ITEMISED RESPONSE : Write an Itemised Response : note at least 3 plusses (how the idea is useful, its advantages, how it appeals, etc.), and then the major 'How To', pointing the direction for idea development.

Plusses : _____

How To... _____

REPEAT IDEA-ITEMISED RESPONSE STEPS until a Possible Solution is reached : a course of action that will resolve (a part of) your problem. Check that the Possible Solution is

* New to you;
* Appealing;
* Feasible.

Also write down your Next Steps to implement your Possible Solution.

IDEA(S) : _____

ITEMISED RESPONSE : + _____ + _____ +

How To... _____

IDEA(S) : _____

ITEMISED RESPONSE : + _____ + _____ +

How To... _____

IDEA(S) : _____

ITEMISED RESPONSE : + _____ + _____ +

How To... _____

IDEA(S) : _____

ITEMISED RESPONSE : + _____ + _____ + _____

How To... _____

IDEA(S) : _____

ITEMISED RESPONSE : + _____ + _____ + _____

How To... _____

IDEA(S) : _____

ITEMISED RESPONSE : + _____ + _____ + _____

How To... _____

* Use additional sheets, as you wish, to develop the above ideas into Possible Solution(s).

POSSIBLE SOLUTIONS : _____

_____

_____

_____

_____

_____

Check out Criteria : Newness; Feasibility; Appeal.

NEXT STEPS : _____

_____

_____

* Repeat the above procedure to generate further Possible Solutions, as you wish. For example, select another 'How To' for idea development.

CONSENSUS MEETING FORMAT

This meeting format has been devised for application to multi-Client (shared action-responsibility) and conflict situations, where mutually acceptable courses of action are required; for example, in union-management negotiations.

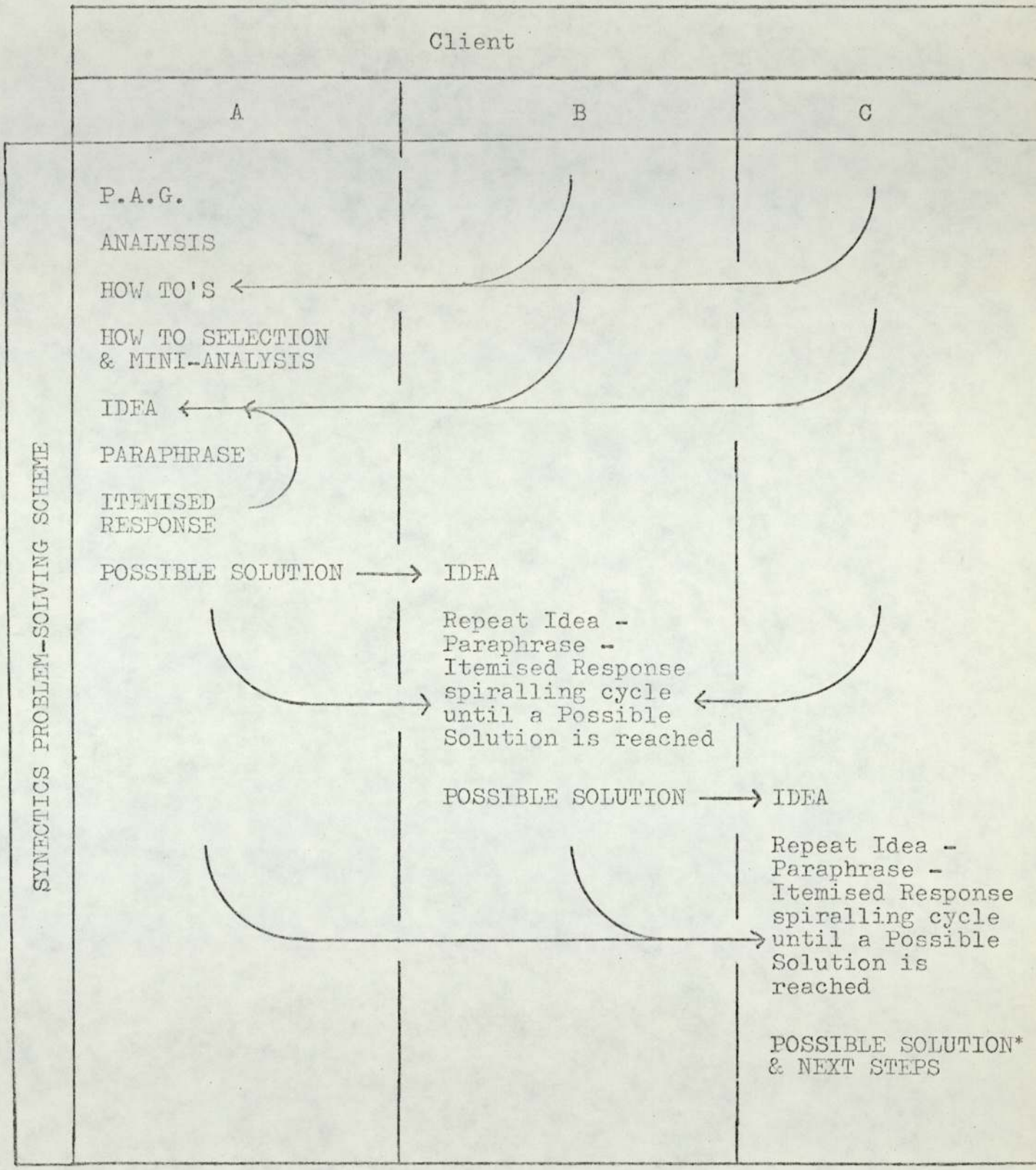
Pre-Conditions

The pre-conditions for the Synectics Consensus Meeting are :
i) All the individuals directly involved are willing to problem solve (rather than sabotage).
ii) These individuals are willing to meet together.

Features

The main features of the Synectics Consensus Meeting are :
i) The action responsibility of each individual is carefully identified, so that the problem/conflict situation is broken down into a series of 'sub-problems', each linked to a particular Client.
ii) Solutions developed for one individual are checked out as ideas with an Itemised Response from the other individuals involved. Problem solving is carried out sequentially until a mutually acceptable course of action is reached.

CONSENSUS MEETING FORMAT



* Return to A and B, as necessary

In theory, this sequential mode of rotating Clientship and problem solving may continue indefinitely. In practice, this does not happen because all the individuals involved are feeding How To Statements and ideas to whoever is Client. And because when a solution is reached for the first Client, he then has a vested interest in ensuring solutions are achieved for subsequent Clients.

Benefits

The benefits of the Synectics Consensus Meeting are at least threefold :

i) The recognition that the individuals involved are themselves an integral part of the problem situation. The problem is inseparable from the individual who has to act upon it. Consequently, a conflict between A, B and C is not one problem, but three - A's problem, B's problem and C's problem. By dealing with each problem in turn, tangled situations are unravelled and complex issues are made simpler.

ii) Value is found in all ideas and proposals. In particular, a proposal which is unacceptable in total is analysed to establish what aspects of it are acceptable. In this way the amount of common ground which exists between the individuals is revealed. The areas of difference are put into perspective, distinct from the areas of agreement. As a broad generalisation, our experience is that 90% of the emotion comes from 10% of the content of the dispute. When this is appreciated it becomes much easier to invent a way around that 10% of disagreement.

iii) As individuals begin to realise their enormous capacity to invent new solutions they gain confidence to abandon fixed ideas. It is no longer necessary to insist that there is only one way (usually compromise) to get what they want when other avenues may be explored. Because each individual to the conflict has been actively involved in developing solutions together (consensus), the level of mutual understanding is greatly enhanced.

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AGENDA MEETING FORMAT

This meeting format applies some of the principles of the Synectics Problem-Solving Scheme to other meetings with a mixed agenda. For example, the regular meetings of executive committees, review committees, etc.

Features

The main features of the Synectics Agenda Meeting are :

i) Process Controller. The meeting is run by a Leader who takes no part in the content of the meeting. A clear distinction is maintained between Process and Content. The Leader has authority over process only. The Leader also carries out some administrative and recording duties often performed by a Committee Secretary.

ii) Client. Every item on the agenda is associated by name with the individual who raised it. Thus at all times the group know which individual they are working for. The same subject may be raised by several individuals and is treated as several distinct items. One agenda item is dealt with for each individual in sequence, followed by further cycles. Members of the meeting may add new agenda items to their list at any time during the meeting.

iii) Purpose. For each item the Client must specify the purpose for which he has raised it, so that the group will know what he wants. In practice there appears to be only 3 purposes for which any item is raised :

* to give information;
* to obtain information;
* to solve a problem.

Decision making is not included in this list. In our view decisions are generally best made by individuals, not by committees. If a committee decision is required, the Leader may obtain it by a vote.

iv) Time. The duration of the meeting is fixed in advance and may be extended only by unanimous consent. The time spent on each item is recorded against the name of the individual who raised it, so that at the end of the meeting it is clear how the total time has been taken up each individual on the items he has raised.

A time limit is also set for each item - usually 5 minutes. Giving and obtaining information on any individual item may be accomplished usually in less than 5 minutes. If more than 5 minutes is required other forms communication - report/presentation/lecture - are probably more efficient.

Problem solving may well require more than 5 minutes. In this case, a special problem-solving meeting is set up outside tha Agenda Meeing. The membership of the problem-solving meeting is tailored to the problem and may well be different from that of the Agenda Meeting.

v) Visible Recording. The Leader writes up on the large pads :

* the agenda items against the name of the individual who raised them;
* the time spent on each item;
* 'the minutes' : the recording of any action steps in the particular Client's own words.

Meeting Structure

The sequence of the meeting is as follows :

1. Leader is appointed outside the meeting.

2. Leader fixes time, place, duration; and obtains from the group members a preliminary indication of likely agenda items; agrees the time limit per item; generally plans the meeting.

3. Meeting starts on time.

4. Leader asks each group member for his agenda items (key words) and writes them up.

5. Leader decides the sequence of rotation and starts with the first Client, who selects an item from his list.

6. Leader asks/Client volunteers 'what the group members should listen for', i.e. whether the purpose of the item is giving or obtaining information, or problem solving.

7. At the end of the item (or when the time limit is reached) the Leader records the time spent on it and any conclusion/ action steps the Client wants recording in his own words.

8. Leader goes to other Clients in sequence and repeats cycle.

9. 10 minutes from the end of the meeting, the Leader may ask the group whether they wish to extend the time allowed, or give priority to particular items, or continue as planned.

10. Meeting closes at the scheduled (or extended) time as agreed. Items left over are dealt with in another meeting, (although they often do not reappear as they are resolved in the interim).

Benefits

The benefits of this format in practice are :

* Efficient use of time. Group members tend to compete in minimising the time they take up as Client. Items requiring longer time are delegated to a separate meeting with suitable membership for that item.
* Clarification of responsibility and purpose - who raised the item and for what purpose.
* Efficient conduct of meeting without manipulation - power and authority is applied to process, not content, by an independent Leader.
* Minutes are written publicly and may be corrected at the time, as necessary.

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MAKING THE STRANGE FAMILIAR, MAKING THE FAMILIAR STRANGE

Early Synectics methods involved two basic activities : making the Strange familiar, making the Familiar strange.

Making the Strange familiar

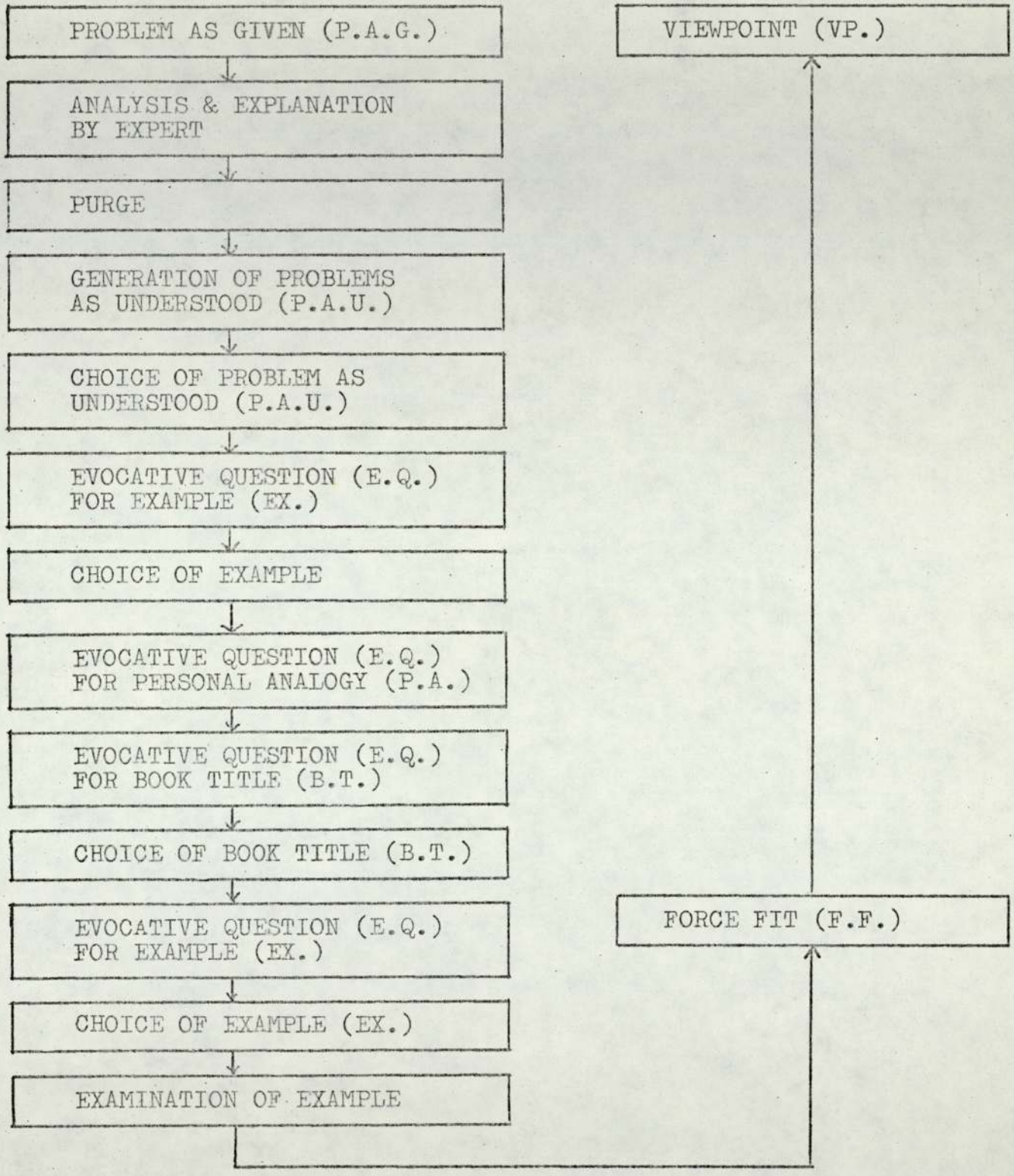
Every individual is basically conservative. Anything may be threatening to him. When faced with any form of strangeness, the individual tends to force it into an acceptable pattern. He compares the given strangeness with data previously known and in terms of these data converts the strangeness into familiarity.

Making the Familiar strange

To make the familiar strange is to distort, invert,or transpose the everyday ways of looking and responding which render the world a secure and familiar place. This pursuit of strangeness is not merely a search for the bizarre and the out-of-the-way. It is a conscious attempt to achieve a new look at the world, people, ideas, and feelings.

These two activities were developed into a problem-solving scheme -

SYNECTICS PROBLEM-SOLVING SCHEME (Early 1960's)



SYNECTICS PROBLEM-SOLVING SCHEME (Early 1960's)

PROBLEM AS GIVEN : A general statement of the problem to be solved as it may have been given to the group members by an outside source or as generated by themselves.

ANALYSIS : An explanation of the problem by the Expert*, making the strange problem familiar. This should be in enough detail so that there is an understanding of the problem, but since the Expert will be a Participant, he need not try to make everyone as knowledgeable as he is.

PURGE : The universal response to the statement of a problem is "How about solving it this way?" It is constructive to encourage individuals to air these immediate ideas. In some cases these are 'good' viewpoints and, if not, the Expert explains why the suggestions will not work, everyone understands better the problem.

PROBLEM AS UNDERSTOOD (P.A.U.) : After the P.A.G. has been explained, each Participant writes a restatement of the problem as he sees it or a goal he believes would be desirable. It is useful to write several P.A.U.s which imply different approaches to the problem. Participants should feel free to Wish for anything they can imagine, even if it violates laws they know hold true.

* The term 'Expert' was subsequently modified to 'Client'.

EVOCATIVE QUESTION (E.Q.) : This is a question that requires an analogical or metaphorical answer. E.Q.s produce three types of Analogy -

EXAMPLE (DIRECT ANALOGY)

This mechanism describes the actual comparison of parallel facts, knowledge or technology. The procedure requires searching one's experiences and knowledge for some phenomenon that is like or has some similar relationship with the subject at hand.

PERSONAL ANALOGY

The simplest form of Personal Analogy is the casual introductory phrase - "If I were he...." Role playing is the kind of Personal Analogy often used as a rudimentary aid in solving problems which are people-oriented rather than technical; for example, marketing problems. An individual identifies himself with a hypothetical person in a given situation and speculates on how that person would feel and act.

A more demanding form of conscious self-deceit is called for in the Synectics use of the Personal Analogy. Participants should use their own highly personal emotions and characteristics to gain insight into purely abstract and technological problems. They identify themselves with a purely non-human entity which figures in the problem, investing it with their own vitality, speculating on how that entity would 'feel' and 'act' in the problem situation. The device is invaluable for making the Familiar strange.

BOOK TITLE (SYMBOLIC ANALOGY)

Symbolic Analogy is a highly compressed statement of the implications of a key word selected from the Problem As Understood or having some connection with the problem. The procedure is to select the key word and ask yourself (or a member of your group) for the essence of its meaning to you. Emphasise or feel for the important connotations of the word. Then put those feelings into one or two words. The more general or all-encompassing the words are, the more potentially useful they are in suggesting areas for speculation.

Some typical Book Titles, or Symbolic Analogies, are :

Ratchet	Dependable Intermittency
Viscosity	Hesitant Displacement
Solidity	Enforced Togetherness
Forest Fire	Progressive Ingestion
Machine-Gun Burst	Connected Pauses
Target	Focussed Desire
Mixture	Balanced Confusion
Multitude	Discrete Infinity
Acid	Impure Aggressor
Receptivity	Involuntary Willingness

EXAMINATION : Examine factually a selected Example. Two types of facts are produced : descriptive facts and 'super' facts (more speculative and strange in nature).

FORCE FIT (F.F.) : The analogical mechanisms must be 'force-fitted' to the problem if they are to be effective. Through the strain of this new fit the problem is stretched, pulled and refocussed in order that it may be seen in a new way. If no deliberate attempt is made to find relevance in apparent irrelevance, then one Analogy merely leads to another, and potentially fruitful Viewpoints will be by-passed.A Force Fit suggests new contexts and thus provides the raw material for new lines of speculation.

VIEWPOINT (VP.) : A usefully strange Example may suggest many different potential solutions or Viewpoints, derived from the material of the Examination.

EXCURSION : A term describing the Synectics procedure from selection of P.A.U. through Force Fit. If no new Viewpoint is developed, another Excursion is begun through all or part of the procedure. That is, sometimes new Examples may be made to the same E.Q.; or a new E.Q. may be used; or, when Force Fit reveals a new aspect of the problem, a new P.A.U. may be stated.

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Reference

George M. Prince : 'The Operational Mechanism of Synectics'. The Journal of Creative Behavior; Winter 1967.

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This is one variation of the early 1960's Synectics Problem-Solving Scheme. Others are described in George M. Prince's book : 'The Practice of Creativity'. Collier Books,1970.