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

Volume III : Appendices

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APPENDIX 1

GUIDELINES FOR SYNECTICS COURSE PREPARATION

ABRAXAS / SYNECTICS PROGRAMMES

INTRODUCTION TO THE SYNECTICS COURSE IN PROBLEM-SOLVING

There are several objectives to the Synectics Course you are about to attend. One objective is to help you rediscover and make more conscious use of some problem-solving methods that you probably have been using unconsciously for years. By recognizing and re-evaluating these methods, you will be able to be deliberately creative more often.

Another Course objective is to provide a mirror in which you can accurately observe some of the ways you behave towards other people and even towards yourself. Most of us usually make only assumptions about our behaviour after the fact of particular interactions. The Synectics Course permits you to evaluate your behaviours as they are in problem-solving situations and then 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 behaviours against meeting results can make you a more effective manager and person.

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

Synectics is not a Course in which you get marks. We do not give reports on "how you did" to anyone. If asked, we have a standard response: "she/he did fine". Our belief is that eveyone is creative and does not come to prove something.

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

Synectics Course content is based on a continually updated body of knowledge. That knowledge is based on observations of and research into meetings among people like yourself

in the context of working with other people to accomplish various tasks. In addition, many of the content elements in the Course have evolved in response to the requests and insights of previous Course participants.

The course is composed of several units. The first unit will provide for you and your group to experience and then to observe yourself in a problem-solving session. Out of this will come a number of insights and issues about the nature of meetings and these will form the basis of much of our activity for the coming week.

In the second unit of the Course, some of the basic Synectics skills and procedures will be introduced. You will 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 style and desired results. Our goal is to help each participant find as many ways as possible to increase his/her probability of success in meetings.

All the problem-solving procedures will be presented and experimented with in the context of solving real problems which each of the participants is asked to bring to the Course (see below). By the end of the week, you will have a basic understanding of the theory and practice of Synectics.

PREPARATION

An important objective of the Course is to help you in handling of your day-to-day work. While in a general sense you spend your time solving problems, both large and small, quite often these do not appear as "problems". Much of the time you make "decisions" or offer suggestions to help a subordinate (or peer or boss) get on with a job. We would like you to take some steps to bring part of your job with you. It is essential to the usefulness of the Course that you have some of these specific examples of your everyday activities, since these are the "problems" and "opportunities" against which the problem-solving procedures will be applied.

Therefore, in preparation for the Course, please do the following:

Bring with you 4 real, current and specific problems 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 each is a problem for you, and what you may have tried in the past to solve them. It would be particularly helpful if you could bring a balance of "thing" problems and "people" problems. If your work seems exclusively people-oriented, you might consider bringing a "thing" problem from outside of your work life (e.g., a hobby).

GUIDELINES FOR SELECTION OF PROBLEMS TO WORK ON

Inasmuch as all the elements of our Synectics meeting process 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 as examples of common problem areas with two different ways of stating them and the rationale for our preference.

1) GENERAL Vs SPECIFIC

EXAMPLES: (General) How to reorganize my organization.
How to plan my life.
How to find a job.

For the week's training, we will be working in short increments of time on each problem (30 minutes). Since a desired end purpose to the week is to arrive at feasible solutions to the problems you will be bringing, we suggest that you break broad general problems such as these into smaller pieces. This way the chances of arriving at some implementable possible solutions are greater. If your problem is very general, you might break it down into 4 or 5 smaller pieces that would touch upon some of the crucial issues involved as well as provide a quicker route for getting to solutions.

EXAMPLES: (Specific) (on reorganizing your company)

How to establish a clearer set of corporate objectives.
How to write job descriptions.
How to develop a working system for delegating.

2) OWNERSHIP OF THE PROBLEM

EXAMPLES:

How to stop the energy crisis.
How to inform young people of the horrors of drug abuse.
How to curb inflation.

While the above examples are probably all real problems to many people, to really effect change in such areas, we must first bring the problem down from its global level. Two things need to be ascertained:

1) how is that a problem for you personally; and
2) what is your power to act to implement any solutions?

Regarding the energy crisis problem, it might be a problem for me in that I am a commutor and the cost of petrol is so high that it takes a too sizable piece of my budget. My ability to do anything about this is restricted to perhaps

working in conjunction with neighbours commuting in the same area. Therefore, to make the problem statement reflect this reality, I might state it as "How to find ways of saving money on petrol for my car".

EXAMPLES:

How to save money on petrol.
How to teach my children about drug abuse in a non -threatening way.
How to heat my house for less money.
How to spend less money on food without robbing my family of nutrition.

3) MOTIVATING OTHERS

EXAMPLES:

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

Individuals frequently see as beginning solutions to their problems that if they could only have someone else do something about it it would help. It is true that many problems and solutions are often tied up with other people. Yet we also feel that to initially seek solutions to a problem by limiting oneself to getting someone else to "do it" may not be as productive as it could. The reason for this view is simply that it is almost always more difficult to motivate another person to change his/her behaviour than it is to change our own. While not ruling out the eventuality of attacking a problem this way, one suggestion is to first take a step back and examine other ways of beginning to solve the problem, especially in those areas where we ourselves have the full implementation powers. The way in which we do this is to ask ourselves, "If I did succeed in getting my secretary more organized, 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 might answer that it would free up a valuable piece of my time which I would plan to devote to a more intense sales and marketing programme. Then what we have as a problem statement might read, "How to free up more of my time for sales and marketing". One approach to this could become working on the secretary piece of the problem. And yet, simultaneously, we might discover other avenues of approach that only involve changing our own behaviour patterns, and since we are only relying on ourselves for changes, we are a little closer to being successful.

EXAMPLES:

How to find a way of freeing up a significant piece of my time for new business.
How to be able to devote the right amount of energy to being a professional woman and a 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 could possibly help with the problem and yet could be avoiding the real source of the problem. By source we mean the reason(s) that is preventing us from deciding to stop smoking or lose weight, etc. Our suggestion in working on these problems is to ask yourself what might be getting in your way of making that decision and present that as your problem statement.

EXAMPLES:

How to find a way to curb my appetite while giving up smoking (fear if weight gaim prevents my decision).
How to satisfy my sweet tooth while losing weight (I know I won't stop eating sweets).
How to experiment with saying 'no' on low-risk situations (my inability to say 'no' is adversely affecting my job situation).

SOME EXAMPLES OF PROBLEMS BROUGHT BY PAST PARTICIPANTS INCLUDE:

(*='thing'; +=people)

* To devise new applications for a particular plastic technology.
* To improve communications among my salesmen.+
* To devise new nappies for babies.*
* To obtain funds for my research project in early chidhood education.+
* How to best position our new laundry product.*
* How to improve my counselling sessions with parents and their children.+
* How to produce a new printing device. *
* How to overcome conflict between my friends.+
* How to help my wife budget more effectively. + *
* To develop a new career counselling programme. + *

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APPENDIX 2

PARTICIPANT FEEDBACK SHEET

ABRAXAS

SYNECTICS PROGRAMMES

- PARTICIPANT FEEDBACK -

NAME:_____ DAY:_____

Please use the space below for your feedback to today's activities in which you participated. Your feedback will be helpful for us to improve subsequent sessions. Please feel free to comment not only the results of today's sessions but also on our presentation of Synectics, course administration, facilities, the Abraxas staff, the Synectics techniques and skills, etc.

+ (what I have found useful/helpful)	ø (my concerns, how to's, wishes, needs, ideas for improvement)

Please use reverse side/additional sheets if you wish.

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APPENDIX 3

EXPERIMENTAL VIDEOTAPE ANALYSIS FORMS A & B

(T.A.F. A & B)

Final Version

- Experimental Video Tape Analysis Form -

TAF : A

Synectics Course	197
Day	
Session No.	

Leader	
Client	
No. of Participants	

Video Tape Observer	
Synectics Coach	

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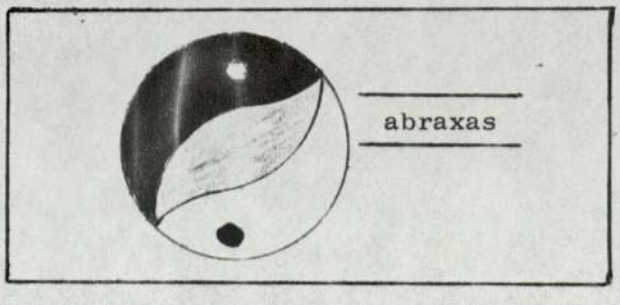
Demonstration session

TAF A : 2.
LS 14874



P.A.G.

Content	I.R.		
		Requested by leader	
		Stated by Client	
		Written up	

ANALYSIS

Content	I.R.		Requested by leader	Stated by client
		Background		
		How a problem for client		
		Past efforts/ thoughts		
		Power to act		
		Ideal Solution		

In/out listening - by participants

(use of small pads)

none	some	all

Questions :

No:	Content	I.R.

Tape No.

Analysis stopped : by client

by leader

Net Out :

Headlining

Rambling

Too long

Too short

HOW TO'S

Written up

Requested by leader

Leader prompts :

Content

I.R.

Warning shot :

Tape No.

Background thinking	Never	Seldom	Sometimes	Often	Always
- Offered by group					
- Requested by leader					

Content I.R.

Client's how to's	Never	Seldom	Sometimes	Often	Always
Stated by client					
Requested by leader					
Drip feeds information					

Content I.R.

Speculation level	V Low	Low	Medium	High	V High
Start					
Middle					
End					

Overall Speculation

Tape No.

Speculation -

Content I.R.

none	some	all

Group involvement

Pace

	V Slow	Slow	Medium	Fast	V Fast
Start					
Middle					
End					

Content I.R.

Never	Seldom	Sometimes	Often	Always

Headline first

Tape No.

	Never	Seldom (15)	Sometimes	Often	Always
Leader : editing					
into content					

Content I.R.

Silences between H2's

Never	Seldom	Sometimes	Often	Always

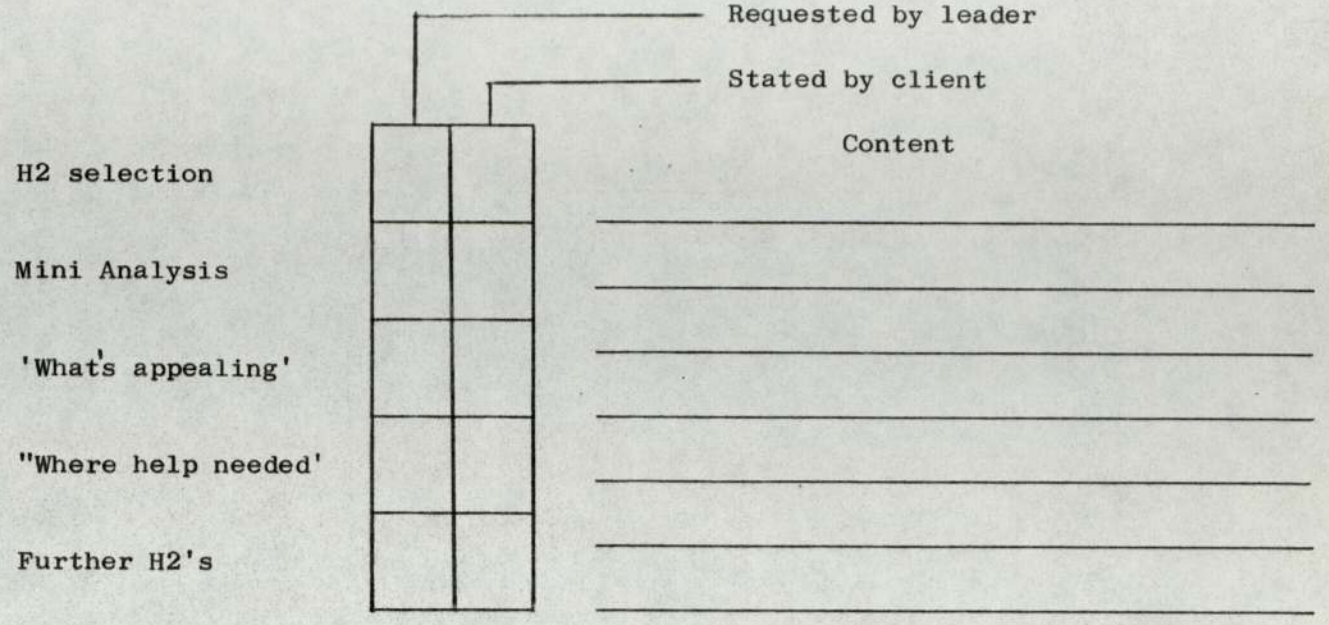
Questions

No.

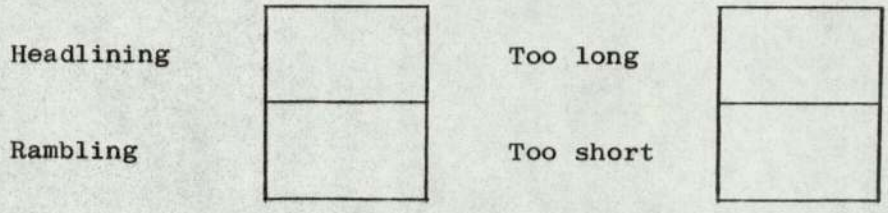
Content I.R.

Net Out: I.R.

HOW TO SELECTION & MINI-ANALYSIS



I.R.



Net Out

Tape No.

IDEA/PHARAPHRASE/I.R. CYCLE

Requested by leader
Stated by client
Offered by participant

Process on Track

			Content	I.R.	
			Idea 1		
			P.P.		
			checkout		
			I.R.		
			+'s		
			concern		
			H2		
			Idea 2		
			P.P.		
			checkout		
			I.R.		
			+'s		
			concern		
			H2		
			Idea 3		
			P.P.		
			checkout		
			I.R.		
			+'s		
			concern		
			H2		
			Idea 4		
			P.P.		
			checkout		
			I.R.		

Tape No.

Requested by leader
Stated by client
Offered by participant

Process on Track

			Content	I.R.	
			+'s		
			concern		
			H2		
			Idea 5		
			P.P.		
			checkout		
			I.R.		
			+'s		
			concern		
			H2		
			Idea 6		
			P.P.		
			checkout		
			I.R.		
			+'s		
			concern		
			H2		

Beyond 6 Ideas :

Leader into content :

Never	Seldom	Sometimes	Often	Always

Communications

ape No.

Pace

	V Slow	Slow	Medium	Fast	V Fast
Start					
Middle					
End					

Questions

Content I.R.

No.

Net Out: I.R.

POSSIBLE SOLUTION

PS NE

Written up

No. 1. Content I.R.

possible solution

feasible

new

appealing

next steps

stated by client

requested by leader

ape No.

PS 20 NE

Written up

No. 2

	Content	I.R.
possible solution		
feasible		
new		
appealing		
next steps		

Written up

No. 3

	Content	I.R.
possible solution		
feasible		
new		
appealing		
next steps		

Written up

No. 4

	Content	I.R.
possible solution		
feasible		
new		
appealing		
next steps		

stated by client

requested by leader

Tape No.

Leader :

edits P.S.

into content

Never	Seldom	Sometimes	Often	Always

P.S. not achieved

More than 4 P.S.'s

Session: Overall pace

V Slow	Slow	Medium	Fast	V Fast

Overall Activity Level

V Low	Low	Medium	High	V High

I.R.

Total time (mins)

Post Session I.R. by Course Participant Coach:

- Plusses : 1) _____

_____ 2) _____

_____ 3) _____

_____

- Wishes for next session : _____

_____

_____

_____

_____

Course Participants' statements on : leadership _____

_____

_____

_____

_____

clientship _____

_____

_____

_____

_____

participantship _____

_____

_____

_____

_____

- Experimental Video Tape Analysis Form -

TAF : B (With Excursion)

Synectics Course	197
Day	
Session No.	

Leader	
Client	
No. of Participants	

Video Tape Observer	
Synectics Coach	

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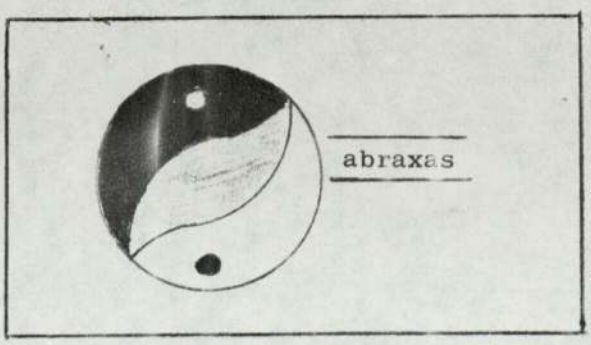
Demonstration session

TAF B : 2.
LS 15874



P.A.G.

Content	I.R.		
		Requested by leader	
		Stated by Client	
		Written up	

ANALYSIS

Content	I.R.			
		Requested by leader		
		Stated by client		
		Background		
		How a problem for client		
		Past efforts/ thoughts		
		Power to act		
		Ideal Solution		

In/out listening - by participants

(use of small pads)

none	some	all

Questions : Content I.R.

No:

pe No.

25

Analysis stopped : by client

by leader

Net Out :

Headlining

Rambling

Too long

Too short

HOW TO'S

Written up

Requested by leader

Leader prompts :

Content

I.R.

Warning shot :

Background thinking	Never	Seldom	Sometimes	Often	Always
- Offered by group					
- Requested by leader					

Content I.R.

Client's how to's	Never	Seldom	Sometimes	Often	Always
Stated by client					
Requested by leader					
Drip feeds information					

Content I.R.

Speculation level	V Low	Low	Medium	High	V High
Start					
Middle					
End					

Overall Speculation

Speculation -

Content I.R.

none	some	all

Group involvement

Pace

	V Slow	Slow	Medium	Fast	V Fast
Start					
Middle					
End					

Content I.R.

Never	Seldom	Sometimes	Often	Always

Headline first

pe No.

28

	Never	Seldom	Sometimes	Often	Always
Leader : editing					
into content					

Content I.R.

Silences between H2's

Never	Seldom	Sometimes	Often	Always

Questions

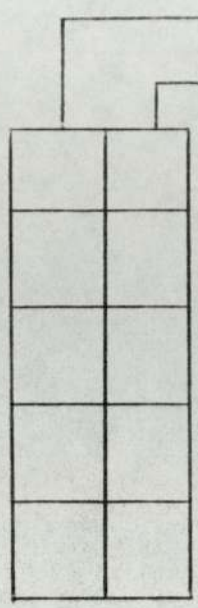
No.

Content I.R.

Net Out: I.R.

ape No.

HOW TO SELECTION AND MINI-ANALYSIS



	Content
H2 selection	
Mini-Analysis	
'What's appealing'	
'Where help needed'	
Further H2's	

I.R.

Net Out

Headlining ☐ Too long ☐

Rambling ☐ Too short ☐

EXCURSION

Excursion requested - by leader ☐ - by client ☐

Leader clears pads

Idea Purge :

Leader requests idea purge ☐ Idea Purge omitted ☐

Leader gives time for idea purge

ape No.

Idea Purge -

I.R.

Word Association

Leader selects word from H2		Word Association in rotation	
'Concrete Word' 1		Leader stops Word Association	
Word Association Written up		'Concrete Word' 2	

	V Slow	Slow	Medium	Fast	V Fast
Pace					
	V Low	Low	Medium	High	V High
Activity Level					

Content

I.R.

IMAGING

Leader requests imaging		Client offers images	
Leader gives time for imaging		Participant offers images	
Leader requests images		Images close to problem	

ape No.

	Never	Seldom	Sometimes	Often	Always
Client involved in building					
Focussed Image					
Radio Story Image					

Leader prompts : ☐

Content

I.R.

Participants involved in building

none	some	all

	V Slow	Slow	Medium	Fast	V Fast
Pace					
	V Low	Low	Medium	High	V High
Activity Level					

Imaging cut at a high : ☐

Too long : ☐

Too short: ☐

Written up : ☐

Tape No.

Content | I.R.

Net Out

ABSURD SOLUTION :

Offered by - participant

- client

Leader requests Absurd Solution :

Leader gives time for Absurd Solution

Leader asks for builds

Absurd Solution: absurd

solution orientated

connected to H2

Leader prompts :

Content | I.R.

Tape No.

Activity Level	V Low	Low	Medium	High	V High
Start					
Middle					
End					

Force Fit

Gradual ☐ Lead ballooning ☐

Oscillating ☐

Loose P.P. and IR

Requested by leader ☐

Stated by client ☐

Leader into content ☐

Leader editing ☐

Too soon ☐

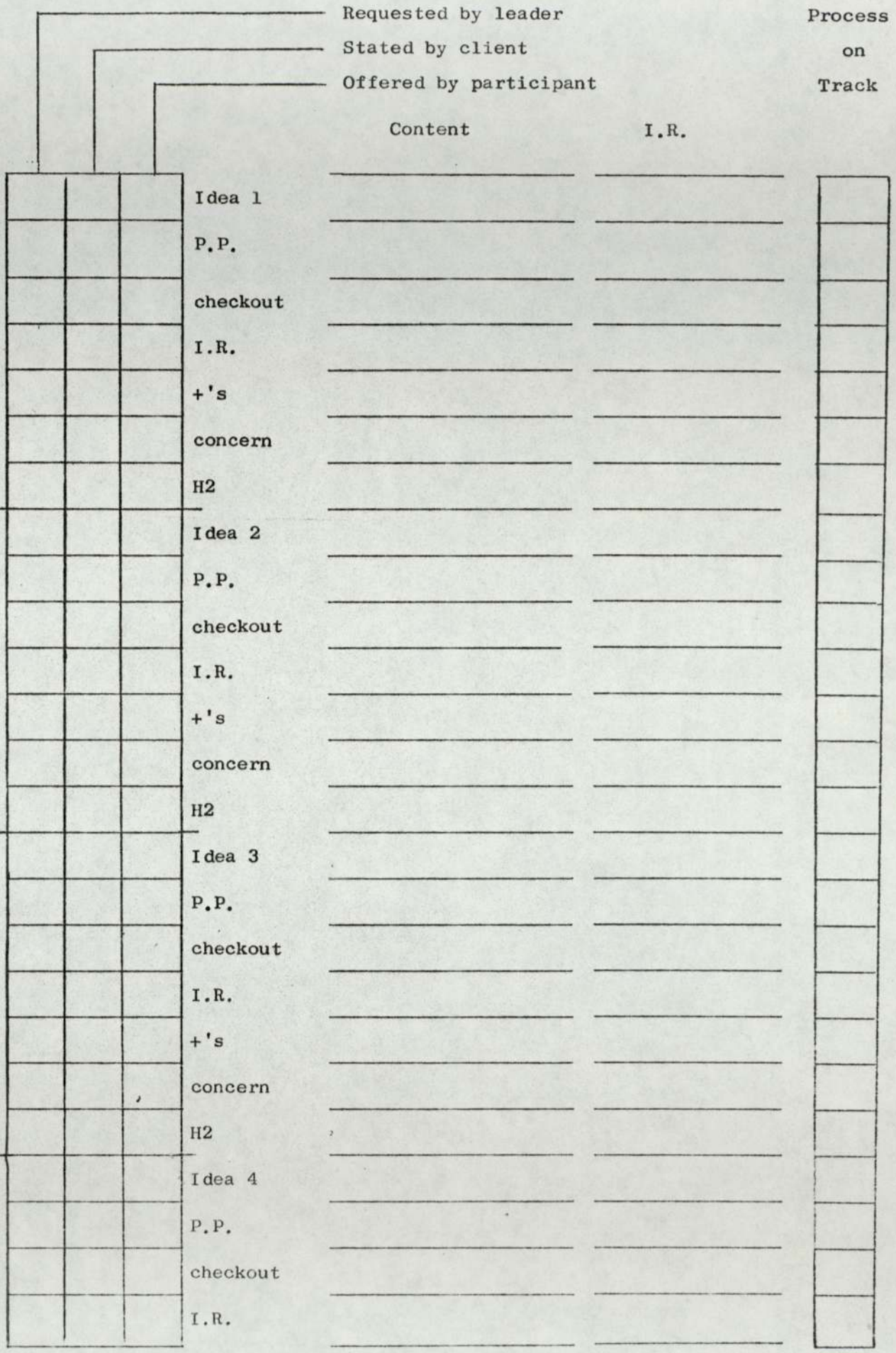
Omitted ☐

Content

I.R.

Speculation (E) ☐

IDEA/PHARAPHRASE/I.R. CYCLE



pe No.

35

Requested by leader
Stated by client
Offered by participant

Process on Track

Content | I.R.

			+'s		
			concern		
			H2		
			Idea 5		
			P.P.		
			checkout		
			I.R.		
			+'s		
			concern		
			H2		
			Idea 6		
			P.P.		
			checkout		
			I.R.		
			+'s		
			concern		
			H2		

Beyond 6 Ideas : ☐

Leader into content :

Never	Seldom	Sometimes	Often	Always

Communications ☐

Pace

	V Slow	Slow	Medium	Fast	V Fast
Start					
Middle					
End					

Questions

Content I.R.

No.

Net Out: I.R.

POSSIBLE SOLUTION

PS NE

Written up

No. 1. Content I.R.

possible solution

feasible

new

appealing

next steps

stated by client

requested by leader

PS 37 NE

Written up

No. 2

	Content	I.R.
possible solution		
feasible		
new		
appealing		
next steps		

Written up

No. 3

	Content	I.R.
possible solution		
feasible		
new		
appealing		
next steps		

Written up

No. 4

	Content	I.R.
possible solution		
feasible		
new		
appealing		
next steps		

stated by client

requested by leader

Leader :

edits P.S.

into content

Never	Seldom	Sometimes	Often	Always

P.S. not achieved

More than 4 P.S.'s

Session: Overall pace

V Slow	Slow	Medium	Fast	V Fast

Overall Activity Level

V Low	Low	Medium	High	V High

I.R.

Total time (mins)

Post Session I.R. by Course Participant Coach:

- Plusses : 1) _____

_____ 2) _____

_____ 3) _____

_____

- Wishes for next session : _____

_____

_____

_____

_____

Course Participants' statements on : leadership _____

_____

_____

_____

_____

clientship _____

_____

_____

_____

_____

participantship _____

_____

_____

_____

_____

APPENDIX 4

EXAMPLE OF COACHING NOTES
(SPLIT-SHEET I.R.)

Trainer notes concerning a Synectics group problem-solving session : July 1974 Synectics Basic Course of Training.

I.R. SESSION NOTES

LEADER : John; CLIENT : Sue.		
Videotape No.	+	-
001	P.A.G. given. ANALYSIS : Background given. LEADER prompts for How a problem, Past Efforts and Thoughts.	No note taking by PARTICIPANTS. No Power to Act & Ideal Solution given.
096	HOW TO's : LEADER - "Anyone got any HOW TO's (H2's)?" - HEADLINE - Steve : " Alan : " Pat : " Sue : " etc. LEADER prompts for background to H2's. Speculative H2's : "Blaze of Glory"; "like Aladin's lamp".	No background to H2's. Needs Energy and faster Pace.
165	LEADER goes to CLIENT : asks for preference : "which one is the best?" CLIENT makes choice and gives MINI-ANALYSIS : what's appealing - gives 2 plusses.	No need to be so rigid with MINI-ANALYSIS.

Videotape No.	+	-
176	CLIENT says where she needs help with her H2. She asks for novelty and fresh ideas.	
	Jim offers idea. CLIENT gives ITEMISED RESPONSE = + + + +, and H2. Explicit I.R.	No PARAPHRASE.
250	LEADER asks for further ideas. Pat offers idea : good HEADLINE, with background.	No PARAPHRASE, and I.R. is confused.
	CLIENT offers H2. Alan offers idea to overcome H2. CLIENT says she has a POSSIBLE SOLUTION.	
290	LEADER writes it up, and checks out criteria - new; feasible; and appealing.	No NEXT STEPS.
	LEADER asks CLIENT to select another H2. CLIENT selects H2 no. 13; and gives more information.	No notetaking by PARTICIPANTS.

Videotape No.	+	-
310	LEADER asks for ideas. Pat offers idea, and CLIENT offers a PARAPHRASE.	CLIENT is overtalkative; needs an idea on H2 in order to speed up the session.
Buzzer : End of session. Time : 30 minutes.		

Net-out

1. Good overall control of process by LEADER.
2. CLIENT responded positively to ideas.
3. Session achieved a POSSIBLE SOLUTION.

Wish : that the session had been faster.

APPENDIX 5

MANUAL FOR T.A.F. A & B

EXPERIMENTAL VIDEOTAPE ANALYSIS FORMS

T.A.F. A & B

MANUAL

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Statement of Purpose :
.....

The purpose of this manual is to provide guidelines for use of the Experimental Videotape Analysis Forms (T.A.F. A & B) and to explain their structure.

T.A.F. A and B have been developed to permit systematic and replicable analysis of videotape recordings of Synectics sessions. They are designed to identify, with the use of sociograms (graphical illustrations), the styles of the LEADER and CLIENT roles. T.A.F. A is for sessions without EXCURSIONS, and T.A.F. B is for those with.

It is recommended that the manual is most carefully read in conjunction with T.A.F. A and B. Notice is drawn to the Glossary of Terms at the end of the manual.

How to use T.A.F. A and B :

T.A.F. A and B are used in the following manner :

* Ticks are placed in the appropriate boxes.
* The sections marked 'Content' and 'I.R.' are intended respectively for taking notes of the content and writing an ITEMISED RESPONSE to specific parts of the session.

Criteria of Competence and Effectiveness :

The following factors were identified as being important for Competence :

1. Pace
2. Activity
3. Process Flexibility
4. Speculation
5. Communications
6. Participation

Only one factor was identified as being important for Effectiveness :

The CLIENT's Criteria of Success.

Definitions :

Competence is defined in terms of the level of ability in using Synectics methods.

Effectiveness is defined in terms of the degree of the CLIENT's goal achievement; Price (1968 and 1972).

Competence Factors :

1. Pace

Pace is defined in terms of the speed with which Synectics methods are used by group members.

Very Slow - Characterised by no use of HEADLINING; long silences during the session (up to 30 seconds),except for process transitions; CLIENT and PARTICIPANTS ramble.

Slow - Characterised by little use of HEADLINING; occasional silences during the session, except for process transitions; lengthy HOW TO STATEMENTS; some rambling by the CLIENT and PARTICIPANTS.

Medium - Characterised by occasional LEADER prompts; a predominance of HEADLINING over rambling and of short HOW TO STATEMENTS.

Fast - Characterised by a great deal of HEADLINING; the CLIENT and PARTICIPANTS volunteer IDEAS, BUILDS etc. rather than being prompted; very occasional silences, except for process transitions; a majority of succint HOW TO STATEMENTS.

Very Fast - Characterised by total use of HEADLINING; no silences during the session, except for process transitions; all HOW TO STATEMENTS are brief.

From the Content Analysis, it was found that medium to very fast' sessions were encouraged by the staff members. The faster the pace the greater the quantity of material generated; and thus, generally a greater probability of generating one or more POSSIBLE SOLUTIONS to the problem.

---

2. Activity

Activity is defined in terms of the degree of alertness and physical movement during a Synectics session.

Very Low - Characterised by no IN-OUT LISTENING; PARTICIPANTS look bored (picked up from the video monitor); little involvement in the HOW TO STATEMENT and EXCURSION processes; no laughter and smiling; listlessness.

Low - Characterised by little IN-OUT LISTENING; CLIENT and PARTICIPANTS struggling to offer HOW TO STATEMENTS; little laughter and smiling.

Medium - Characterised by much IN-OUT LISTENING; one HOW TO STATEMENT is used to trigger others; little laughter and smiling.

High - Characterised by a high level of attention; much laughter and smiling; a lively EXCURSION, with BUILDING at a high level of fantasy.

Very High - Characterised by a very high level of excitement and enthusiasm, with the HOW TO STATEMENT and EXCURSION processes being especially lively; a great deal of laughter, smiling and amusement.

From the Content Analysis, it was found that a medium to very high activity level was encouraged by the staff members. Generally the higher the activity level, the more the sessions were enjoyed by the course members. This stimulated rapid idea development.

---

3. Process Flexibility

This refers to the variations in the use of Synectics methods. Course members tend to be encouraged to adhere strictly to the Synectics Problem-Solving Scheme in order to obtain practice in all the methods taught in the Basic Course.

Example : Once an idea is offered by a PARTICIPANT, the CLIENT is asked by the LEADER to PARAPHRASE the idea and then to give an ITEMISED RESPONSE.

However, the group may depart from strict process, depending upon, for example, the wishes of the CLIENT.

Example : The group may Brainstorm at the Idea Development stage of the Synectics Problem-Solving Scheme before developing a specific idea into a POSSIBLE SOLUTION.

Flexibility was encouraged by the staff members so that the structure of the Scheme would not prevent problem resolution. Sociograms may be used to illustrate process flexibility.

---

4. Speculation

Speculation is defined in terms of the use of Analogy, Metaphor and Fantasy in a Synectics session.

Analogy : Partial similitude between concepts, facets and artifacts.

Metaphor : A figure of speech in which a word or phrase is used to descibe or qualify another with which it is not normally associated, so as to imply comparison.

Fantasy : Extravagant, whimsical, preposterous and dream-like material (verbalised, written or thought).

Very Low - Characterised by no use of analogy, metaphor and fantasy.

Low - Characterised by little use of analogy, metaphor and fantasy.

Medium - Characterised by some use of analogy, metaphor and fantasy.

High - Characterised by a great deal of analogy, metaphor and fantasy.

Very High - Characterised by complete analogy, metaphor and fantasy.

From the Content Analysis, it was found that a medium to high level of speculation was encouraged by staff members.

Speculation has the prime advantage of eliciting novel IDEAS and POSSIBLE SOLUTIONS.

---

5. Communications

This entails the correct use of such procedures and skills as HEADLINING, PARAPHRASING and IN-OUT LISTENING. Other skills that assist communications include clear and visible writing by the LEADER on the large pads, and the organisation of those pads. The efficiency of communications is calculated primarily by examining the frequency of the correct use of the former skills and procedures.

---

6. Participation

All course members are requested to take part actively in Synectics sessions so that the maximum potential of the group is realised and that each course member is able to practise the methods. The CLIENT's involvement is particularly important to ensure that the PARTICIPANTS obtain the necessary direction in problem solving.
The frequency of verbal communication is used as an index of participation, which may be illustrated by sociograms.

Effectiveness :
.....

CLIENT's Criteria of Success.

The effectiveness level of a session is dependent upon the CLIENT's 'Criteria of Success'. This is the extent to which he has obtained what was wanted from the session.

The CLIENT may place great emphasis on novelty, in which case the EXCURSION might be useful. Or, emphasis may be placed on only breaking up the problem in which case the session might not go beyond the HOW TO STATEMENT procedure.

No two CLIENTS will have the same problem or the same 'Criteria of Success'. Each will have his own biases and preferences as to what is important in resolving his problem. It is very much the CLIENT's prerogative to decide when a POSSIBLE SOLUTION is achieved and what constitutes that POSSIBLE SOLUTION.

Solutions per Session :
.....

For research purposes, the number of POSSIBLE SOLUTIONS per session is used as a measure of effectiveness. This is because in Synectics sessions the emphasis is generally on problem resolution rather than, for example, idea generation (as in Brainstorming sessions).

Structure :
.....

This part of the manual descibes the structure of T.A.F. A and B.

.....

Synectics Problem-Solving Scheme for T.A.F. A :
.....

P.A.G. (Problem As Given)
The CLIENT states the P.A.G. : a one-sentence problem statement, prefaced by an action-orientated verb; for example, to do, to make, to devise.
The P.A.G. is written on the large pads by the LEADER.

ANALYSIS
The CLIENT gives some information behind the P.A.G., covering
i) the background of the problem;
ii) how a problem for him;
iii) power to act : the areas of action responsibility, the resources (human,technical and financial) available and the control over the problem situation;
iv) past efforts and thoughts : what has been tried and thought of to date to resolve the problem;
v) ideal solution : what the CLIENT would like to achieve most (if reality could be suspended); or, what wished for from the Synectics session. Sometimes prefaced by the words : ''It would be nice if .....''. This is essentially the CLIENT's 'Criteria of Success'.

Participants should be IN-OUT LISTENING,'sampling' at a high level of attention.This involves noting key words, IDEAS , thoughts, etc. in order to prepare themselves for the ensuing parts of the session.
Participants are asked to avoid questions because of the dangers of killing or masking ideas.
Where the purpose of a question is to elicit information, the preference is to express that need by a statement.

HOW TO STATEMENTS
The CLIENT and PARTICIPANTS restate pieces of the problem, wishes, speculations, challenges, images, various facets and approaches to the problem.
The HOW TO STATEMENTS are written on large pads by the LEADER. The LEADER may use 'prompts' to elicit the background thinking of the HOW TO STATEMENTS, and give 'warning shots' requesting direction and HOW TO STATEMENT selection. The CLIENT's HOW TO STATEMENTS are useful in indicating the direction he wishes to proceed. The CLIENT and PARTICIPANTS are encouraged by the staff members to contribute evenly in this part of the session, with perhaps a bias towards the CLIENT's involvement.
The LEADER may attempt to avoid silences between HOW TO STATEMENTS by using 'prompts' and at the same time not being involved in the content. If a question is asked, the LEADER may ask the question to be turned into a HOW TO STATEMENT, not editing the content.

HOW TO STATEMENT SELECTION & MINI-ANALYSIS :

The CLIENT selects one HOW TO STATEMENT to focus upon for idea development. This is a priority decision by the CLIENT. The MINI-ANALYSIS involves the CLIENT stating :

i) what is appealing about the selected HOW TO STATEMENT; and

ii) where help is needed in developing it into a POSSIBLE SOLUTION.

IDEA

A PARTICIPANT (or sometimes the CLIENT) offers an IDEA to achieve the selected HOW TO STATEMENT. An IDEA is a proposed course of action. The LEADER may accept BUILDS immediately following the first IDEA, although is not obliged to.

PARAPHRASE

The CLIENT gives his understanding of the IDEA to ensure that it is properly understood. The LEADER checks with the IDEA profferer(s) that the PARAPHRASE is correct.

ITEMISED RESPONSE

The CLIENT states three or more plusses (useful or helpful aspects) for the IDEA (and BUILDS), and gives a HOW TO STATEMENT pointing the direction for further idea development. The HOW TO STATEMEMNT may encompass a concern that the CLIENT has with the IDEA (and BUILDS).

The IDEA, PARAPHRASE, ITEMISED RESPONSE procedure is repeated until there are no further HOW TO STATEMENTS. At this stage

the original IDEA is now a POSSIBLE SOLUTION.

POSSIBLE SOLUTION

The CLIENT states an acceptable course of action for implementation, which meets the criteria of :

i) feasibility;

ii) newness;

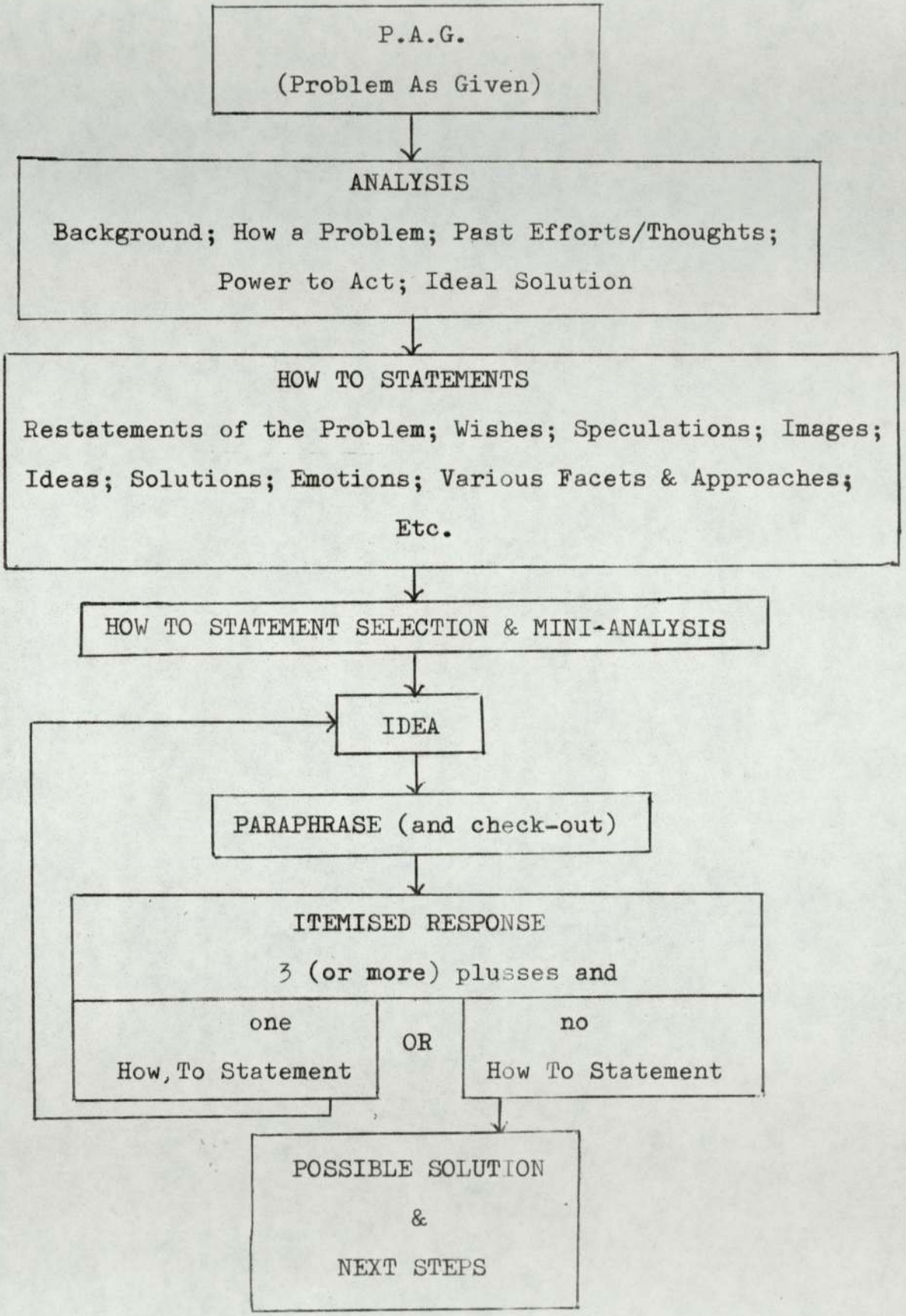
iii) appealing.

A POSSIBLE SOLUTION resolves either part of or the complete problem. The CLIENT also states his NEXT STEPS : what is to be done to carry out the POSSIBLE SOLUTION. Both the POSSIBLE SOLUTION and NEXT STEPS are written up on the large pads by the LEADER.

The session may now end. If it continues the CLIENT may select another HOW TO STATEMENT, or accept different IDEAS on the selected HOW TO STATEMENT, etc., depending upon his preference and time constraints.

Exhibit 1 is an overview of the Synectics Problem-Solving Scheme for T.A.F. A.

EXHIBIT 1 : Synectics Problem-Solving Scheme for T.A.F. A.



Synectics Problem-Solving Scheme for T.A.F. B :

P.A.G.
ANALYSIS
HOW TO STATEMENTS
HOW TO STATEMENT SELECTION & MINI-ANALYSIS

} As for T.A.F. A

EXCURSION

IDEA PURGE

The LEADER asks the CLIENT and PARTICIPANTS to note any IDEAS on their small pads. He clears the large pads.

WORD ASSOCIATION

The LEADER chooses a word from the selected HOW TO STATEMENT. The word is usually a noun ('Concrete Word 1'). The CLIENT and PARTICIPANTS offer in rotation related words, which the LEADER may write up on the the large pads. The exercise is stopped by the LEADER when he selects another noun ('Concrete Word 2'), which is perceived to be unconnected to the selected HOW TO STATEMENT.

IMAGING

The CLIENT and PARTICIPANTS develop ' verbal pictures', prompted by the LEADER. The images may be built so that they are not close to to the P.A.G. or the selected HOW TO STATEMENT, because of the need to move away from the problem. The CLIENT and PARTICIPANTS concentrate on developing a focussed image, where the action occurs in a narrow confine,

rather than a 'Radio Story' or 'Travelling Image', which are not visually rich in data. The LEADER may ask the CLIENT and PARTICIPANTS to focus and build the image. Stopping the image at a high level of activity has often the effect of maintaining the pace during the next part of the session.

ABSURD SOLUTION

The LEADER requests the CLIENT and PARTICIPANTS to generate courses of action for the CLIENT to implement which are :

i) absurd, denying reality;

ii) connected to the selected HOW TO STATEMENT and the IMAGING material; and

iii) solution-orientated, resolving in some way the problem.

FORCE FIT

The CLIENT and PARTICIPANTS expand on one ABSURD SOLUTION (offered by a PARTICIPANT), using the material of the ANALYSIS, IMAGING, MINI-ANALYSIS and their ABSURD SOLUTIONS. They introduce increasing reality into the ABSURD SOLUTION until novel ideas begin to emerge. They gradually introduce reality, rather than 'oscillate' between fantasy and reality, or, 'lead balloon' coming straight down to reality. In this manner maximum value is obtained from the ABSURD SOLUTION.

LOOSE PARAPHRASE & ITEMISED RESPONSE

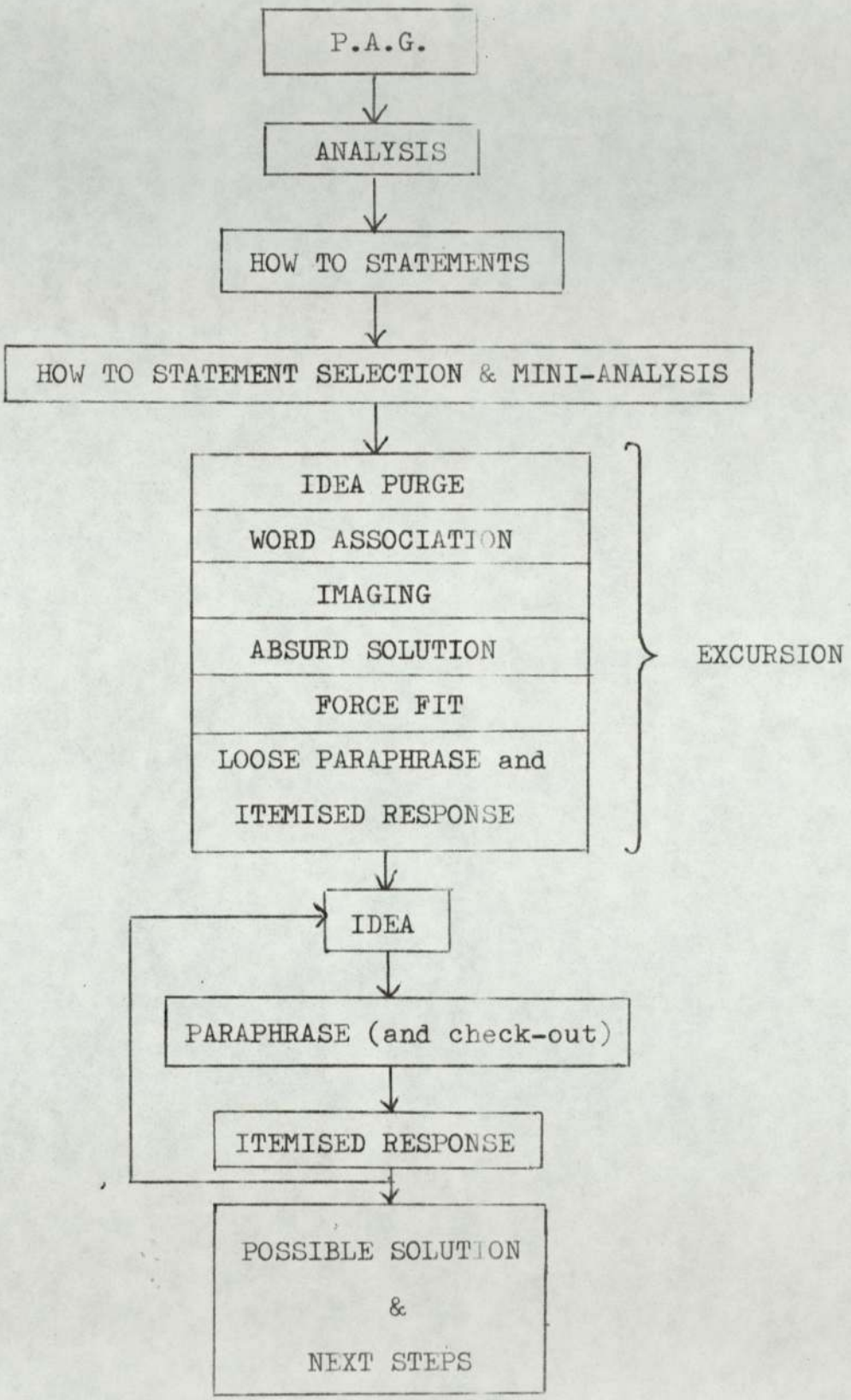
When the novel ideas begin to emerge, the LEADER asks the

CLIENT for an informal PARAPHRASE and ITEMISED RESPONSE to pull together the useful aspects of the FORCE FIT.

IDEA PARAPHRASE ITEMISED RESPONSE POSSIBLE SOLUTION	As for T.A.F. A

Exhibit 2 is an overview of the Synectics Problem-Solving Scheme for T.A.F. B.

EXHIBIT 2 : Synectics Problem-Solving Scheme for T.A.F. B.



Glossary of Terms used in T.A.F. A & B :

.....

a

ABSURD SOLUTION

Course of action, which

i) denies reality;

ii) is connected to the selected HOW TO STATEMENT and the IMAGING; and

iii) resolves the problem in some manner.

.....

ANALYSIS

Information given by the CLIENT at the outset of a Synectics session, covering

i) background : surrounding details of the problem;

ii) how a problem : why the problem has problem ownership;

iii) past efforts and thoughts : what has been tried and thought of to date to resolve the problem;

iv) power to act : the CLIENT describes his areas of action responsibility;

v) ideal solution : what the CLIENT would like most to do (if reality could be suspended). His 'Criteria of Success'.,

.....

b

BUILDING and BUILDS

The development and expansion of IDEAS.

.....

c

CLIENT

The problem owner, who controls the content of a Synectics session.

.....

COACH

A course or staff member who writes a critique of a Synectics session, identifying the aspects he perceives as useful and helpful and those that might be improved. His perceptions are then fed back to the other course members in the subsequent discussion session.

.....

CONTENT

As distiguished from PROCESS. The substance of the session, which is different for every problem and every Synectics session.

.....

d

DEMONSTRATION SESSION

A Synectics session led by a staff member.

.....

ASTON UNIVERSITY

e

EXCURSION (Coded : (E))

In particular the 'Image Excursion'. The use of fantasy to generate novel IDEAS and SOLUTIONS, involving the procedures of WORD ASSOCIATION, IMAGING, ABSURD SOLUTION, and FORCE FIT.

.....

f

FORCE FIT

The adaption of fantasy to the problem (specifically the CLIENT's selected HOW TO STATEMENT).

.....

g

GROUP

The CLIENT and PARTICIPANTS : those individuals involved in the content of the Synectics session.

.....

h

HEADLINES and HEADLINING

The skill of stating the essential elements of one's thoughts first, then giving the background thinking.

.....

HOW TO STATEMENTS (Coded : (H2's))

1. Multiple restatements of the problem, encompassing ideas, emotions, wishes, solutions, speculations, challenges, multiple

facets and approaches to the problem, etc. Expressed in the form of statements prefaced by 'How to ....'.

Example : How to use plastic

How to devise a manual

How to make pigs fly.

2. Part of the ITEMISED RESPONSE, stated by the CLIENT, pointing the direction for idea development.

.....

i

IDEA

A proposed course of action. A mental conception; a notion ; a vague impression; an image. As distinguished from a POSSIBLE SOLUTION.

.....

IDEA PURGE

Part of the EXCURSION. The LEADER requests the CLIENTS and PARTICIPANTS to write down any IDEAS and their clear their small pads. The purpose is to ensure that new and novel SOLUTIONS are generated. These IDEAS may be offered to the CLIENT at the end of the Synectics session.

.....

IMAGING

(Verbalised) mental pictures developed from fantasy.

.....

IN-OUT LISTENING

The skill of listening at a high level of attention and noting key words and thoughts.

.....

ITEMISED RESPONSE

The identification of three or more plusses - useful and helpful aspects - for an IDEA, and one HOW TO STATEMENT (concern) pointing the direction for idea development.

.....

l

LEADER

The process controller of the Synectics session, who takes no part in the content. He regulates the operations, the administrative procedures, and the communication channels.

.....

m

MINI-ANALYSIS

The CLIENT states :

i) what is appealing about the selected HOW TO STATEMENT;

and ii)where it needs developing into a POSSIBLE SOLUTION.

.....

n

NET OUT

The overall perception of (part of) a Synectics session, based upon consideration of what was useful and what might be improved.

.....

NEXT STEPS (Coded : (NE))

The CLIENT states what he is going to do to implement his POSSIBLE SOLUTION(S).

.....

p

P.A.G. (Problem As Given)

One-sentence statement of the problem, as perceived by the CLIENT. A statement of the principal objective of the session, prefaced by an action-orientated verb.

Example : To devise a new thermos closure

To obtain a Ph.D.

.....

PARAPHRASE

Emphasised by C. Rogers (1951). The CLIENT gives his understanding of an IDEA, and checks that it has been properly understood.

.....

PARTICIPANTS

Individuals who assist the CLIENT resolve his problem, by offering HOW TO STATEMENTS, IDEAS, BUILDS, etc.

.....

POSSIBLE SOLUTION

An acceptable course of action for the CLIENT to implement, which resolves (part of) his problem. It meets the criteria of :

i) feasibility;

ii) newness;

iii) appeal.

.....

PROMPTS

LEADER questions which facilitate pace.

Example : 'What are you thinking?'

As distiguished from Probes :

Example : 'Why did you say that?'

.....

PROCESS

As distiguished from CONTENT. The operations of Synectics methods.

.....

r

RAMBLING

The opposite of HEADLINING : giving a preamble before one's essential thoughts.

.....

W

WARNING SHOT

Request for a decision.

Example : The LEADER tells the CLIENT that he will be required to select a HOW TO STATEMENT within two minutes.

WARNING SHOTS ensure that no-one has to make an immediate decision.

.....

WORD ASSOCIATION

The sequential rotation of nouns which are in some manner linked together. The purpose is to gain distance from the selected HOW TO STATEMENT, in order to approach the problem from a new direction.

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APPENDIX 6

EXPERIMENTAL VIDEOTAPE ANALYSIS FORMS A & B

(T.A.F. A & B)

Pilot Version

- Experimental

Video Tape Analysis Form -

Synectics Course : _____

Session : _____

Leader	
Client	
No. of P.ts	

Video Tape Observer : _____

Coach : _____

-Confidential-

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taf-a

HOW TO'S

Written up :

Background thinking :

	Never	Seldom	Sometimes	Often	Always
- Offered by group					
- Requested by leader					

Client's

- Offered by client					
- Requested by leader					

-Interventions-

Leader	Client	Participant

Speculation level

v.low	low	medium	high	v.high

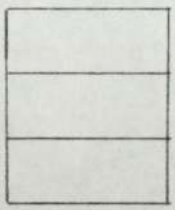
Pace

v.slow	slow	medium	fast	v.fast

P.A.G. : offered by client

Requested by leader

Written up



Comments : _____

_____

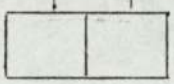
_____

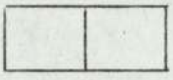
_____

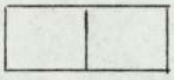
ANALYSIS

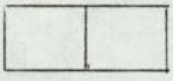
Requested by leader

Offered by client

Background  Comments : _____

How a problem for client 

Past efforts/ thoughts 

Fantasy Solution 

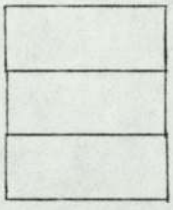
_____

In/out listening (use of small pads)

- by all pt.s

some pt.s

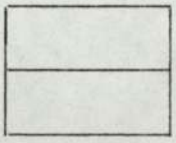
no pt.s

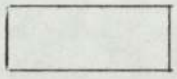


_____

Leader stops analysis

Client stops analysis



Time (mins) 

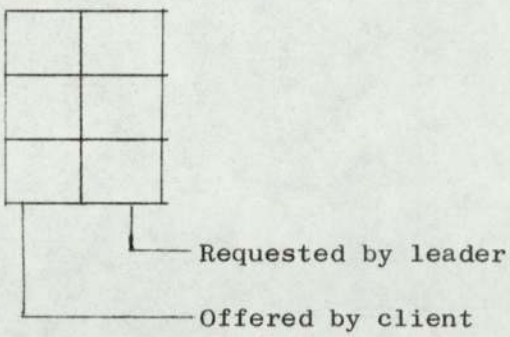
Comments :

HOW TO SELECTION + MINI-ANALYSIS

H2 Selection + Mini-Analysis

"What's appealing"

"Where I need help"

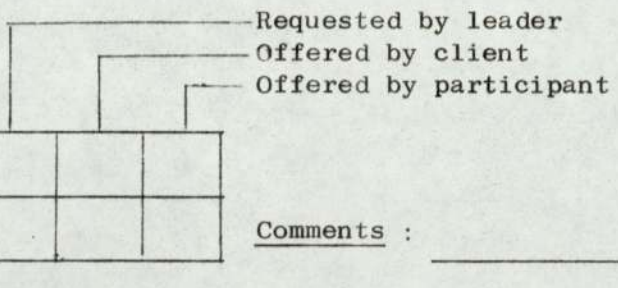


Comments :

Time :

Comments :

IDEA - PARAPHRASE - ITEMIZED RESPONSE CYCLE



Idea 1

Comments :

P.P.

(checkout)

I.R.

- +'s

- concern

- H2

pe No

Requested by leader
Offered by client
Offered by participant

Idea 2

P.P.
(checkout)

I.R.
- +'s
- concern
- H2

Idea 3

P.P.
(checkout)

I.R.
- +'s
- concern
- howto

Idea 4

P.P.
(checkout)

I.R.
- +'s
- concern
- H2

Requested by leader
Offered by client
Offered by participant

Comments :

Idea 5

P.P.
(checkout)

I.R.
- +'s
- concern
- H2

Idea 6

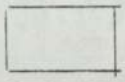
P.P.
(checkout)

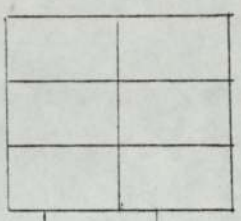
I.R.
- +'s
- concern
- H2

Beyond 6?

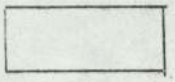
Time :

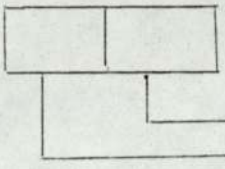
POSSIBLE SOLUTION :

Written up = 



Next steps

Written up = 



Comments :

Net out for session :

Total Time (mins) :

- Experimental

Video Tape Analysis Form -

Synectics Course : _____

Session : _____

Leader	
Client	
No. of P.ts	

Video Tape Observer : _____

Coach : _____

-Confidential-

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taf-b

HOW TO'S

Written up :

Background thinking :

- Offered by group
- Requested by leader

Never	Seldom	Sometimes	Often	Always

Client's

- Offered by client
- Requested by leader

-Interventions-

Leader	Client	Participant

Speculation level

v.low	low	medium	high	v.high

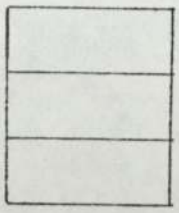
Pace

v.slow	slow	medium	fast	v.fast

P.A.G. : offered by client

Requested by leader

Written up



Comments : _____

_____

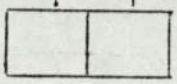
_____

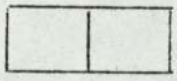
_____

ANALYSIS

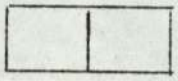
Requested by leader

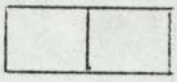
Offered by client

Background  Comments : _____

How a problem for client  _____

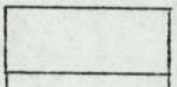
_____

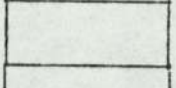
Past efforts/ thoughts  _____

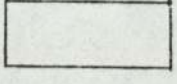
Fantasy Solution  _____

_____

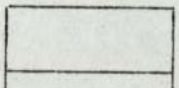
_____

In/out listening (use of small pads) - by all pt.s 

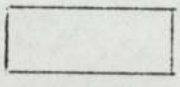
some pt.s 

no pt.s 

_____

Leader stops analysis 

Client stops analysis

Time (mins) 

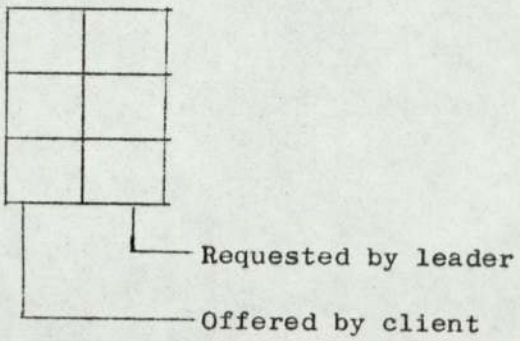
Comments :

HOW TO SELECTION + MINI-ANALYSIS

H2 Selection + Mini-Analysis

"What's appealing"

"Where I need help"



Comments :

-EXCURSION-

IDEA PURGE :

Leader requests idea purge :

Idea Purge omitted :

Leader gives time for idea purge :

Time :

Comments :

WORD ASSOCIATION :

Leader selects work from How to :

Leader writes up word on large pad :

Word Association written up :

Word Association — rotation :

Leader stops Word Association :

Time :

Comments :

IMAGING :

Leader requests imaging :

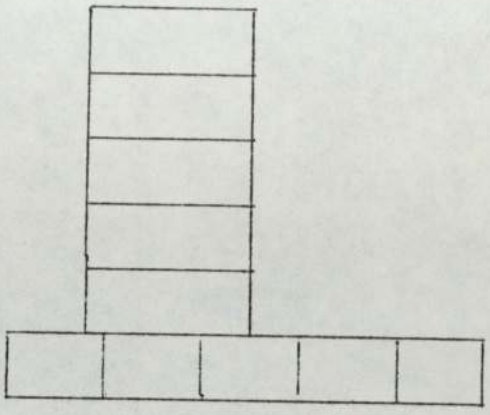
Leader gives time for imaging :

Leader requests images :

Leader asks for builds :

Group offers builds :

Chart involved in building :



-Interventions-

Client Leader Participant

Leader stops imaging [ ] Time : [ ]

Comments :

ABSURD SOLUTION

Leader requests Absurd Solution : [ ]

Leader gives time for Absurd Solution : [ ]

Absurd Solution : - solution orientated : [ ]

- connected to H2 : [ ]

- absurd : [ ]

Leader asks for builds : [ ]

Group offers builds : [ ]

FORCE FIT :

Oscallating fantasy : [ ]

Lead ballooning : [ ]

Gradual reverity : [ ]

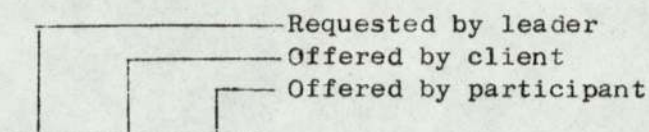
-Interventions-

Client Leader Participant

Time :

Comments :

IDEA - PARAPHRASE - ITEMIZED RESPONSE CYCLE



Idea 1

Comments :

P.P.

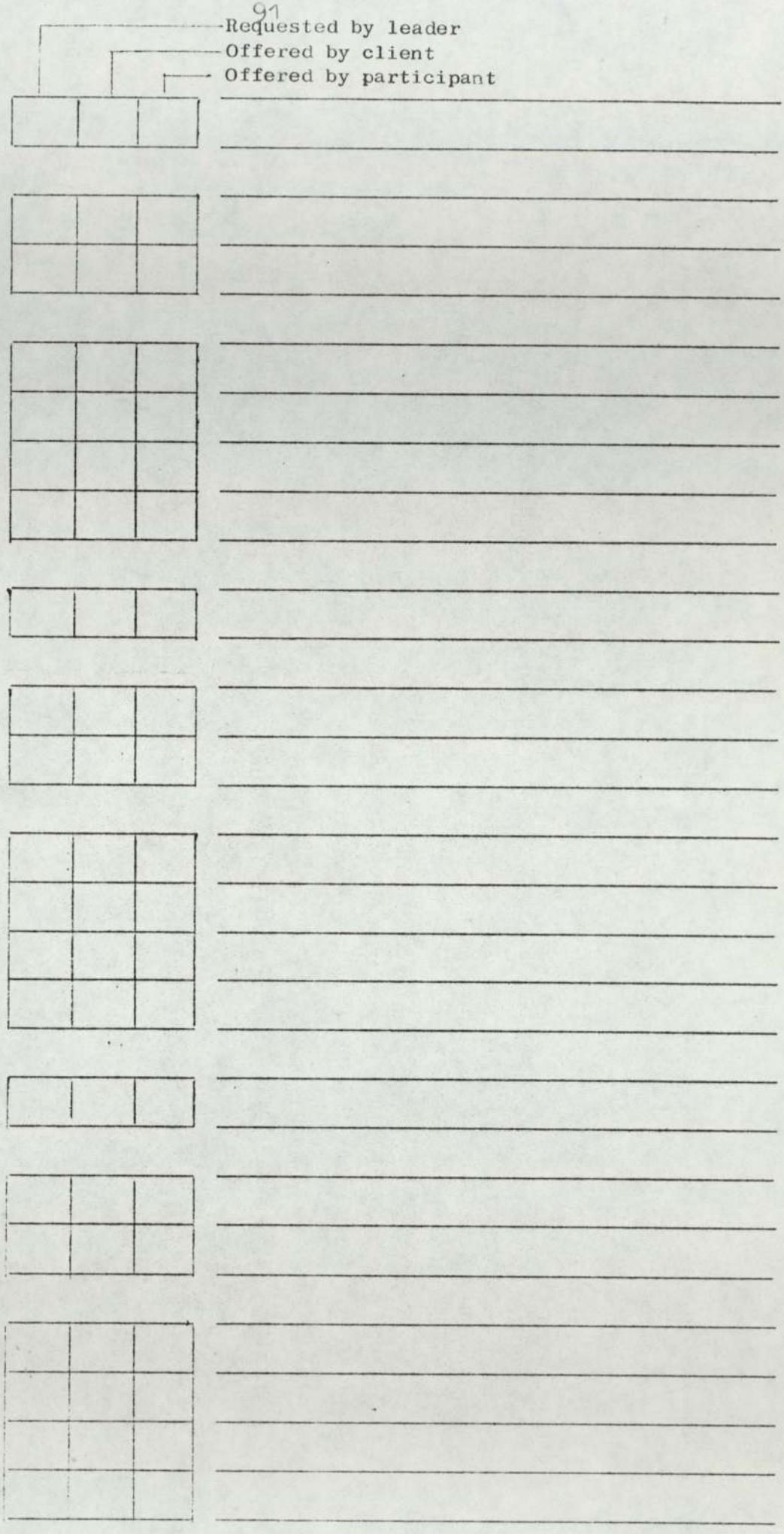
(checkout)

I.R.

- +'s

- concern

- H2


Requested by leader
Offered by client
Offered by participant
Idea 2
P.P.
(checkout)
I.R.
- +'s
- concern
- H2
Idea 3
P.P.
(checkout)
I.R.
- +'s
- concern
- howto
Idea 4
P.P.
(checkout)
I.R.
- +'s
- concern
- H2

Requested by leader
Offered by client
Offered by participant

Comments :

Idea 5

P.P.
(checkout)

I.R.
- +'s
- concern
- H2

Idea 6

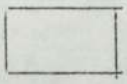
P.P.
(checkout)

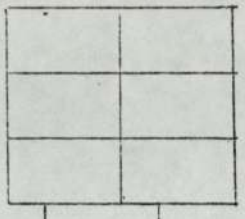
I.R.
- +'s
- concern
- H2

Beyond 6?

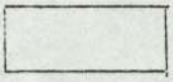
Time :

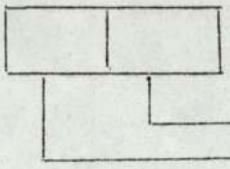
POSSIBLE SOLUTION :

Written up = 



Next steps

Written up = 



Comments : _____

_____

_____

_____

_____

_____

_____

Net out for session : _____

_____

_____

_____

_____

_____

Total Time (mins) : _____

APPENDIX 7

SYNECTICS Q-SORT QUESTIONNAIRE

(S.Q.S.Q.)

Interdisciplinary Higher Degrees Scheme Office
The University of Aston in Birmingham, Holte Building, Holt Street, Birmingham B7 4BH.

Research Project : Abraxas and Aston University

Questionnaire

Dear Course Graduate

Abraxas, in conjunction with Aston University, are conducting a research project into Synectics. The purpose of the project is to assist the development of Synectics.

Part of the study involves completing a questionnaire by you as course graduates. Participation in the project would be welcomed, and the data collected is completely confidential.

In return for your assistance, a summary of the study will be sent to you free of charge once the project is completed.

Yours truly

ABRAXAS

Leslie Saward

Leslie Saward

ONCE COMPLETED PLEASE RETURN THE QUESTIONNAIRE TO THE ABOVE ADDRESS IN THE S.A.E. PROVIDED.

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S.Q.S.Q.2.

Telephone: 021-359-3611. Extension Nos. Dr. A.J. Cochran 6183; Mr. M.K. Hussey 6338; Mr. G.A. Montgomerie 6349; Dr. D.J. van Rest 6178.

Section A: General Background: -CONFIDENTIAL-

1. I would*/would not like to participate in the project.

2. Name and address to which the summary report is to be sent:

_____

3. For research purposes, if you do not wish to participate in the project it would be helpful to know why: _____

_____

4. Age (years): _____ Sex: Male*/ Female

5. Education:
(please tick one)

1st degree	2nd degree or above	Other

6. Profession:
(please tick one)

Managerial	Scientific	Technical	Administrative	Other

7. Date of course attendance: _____ (month) 197_ (year)

* delete as applicable

_____

-QUESTIONNAIRE-

S.Q.S.Q.

_____

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_____

Section B: You as a Synectics Participant:

This section consists of a series of 50 statements about being a PARTICIPANT (as opposed to Client or Leader) in a Synectics Meeting. You are asked to respond to the statements. THERE ARE NO RIGHT OR WRONG RESPONSES TO EACH OF THE STATEMENTS. Please work quickly and do not spend too much time over any statement. I want your first reaction rather than long drawn out responses to the statements. This section should not take longer than 20 minutes to complete. Please read each statement carefully and respond to ALL the statements.

Instructions for completing Section B:

Please put a number in the box alongside each statement, depending upon whether you "wholly disagree" to "wholly agree", as indicated below:

1	2	3	4	5	6	7
wholly disagree	mostly disagree	slightly disagree	indifferent	slightly agree	mostly agree	wholly agree

For example, if you were to "slightly disagree" with a statement, you would place the number 3 in the box alongside that statement. Or, if you were "indifferent", you would place the number 4 in the box; and so forth.

-PLEASE PUT NUMBER IN EACH BOX-

1	2	3	4	5	6	7
wholly disagree	mostly disagree	slightly disagree	indifferent	slightly agree	mostly agree	wholly agree

AS PARTICIPANT -

1. I find the speculative 'How to' statements very useful in triggering other 'How to' statements. [ ]

2. It is O.K. for a leader to sacrifice process in order to inject some energy into a Synectics meeting. [ ]

3. The more information the client gives the better I am able to participate in Synectics meetings. [ ]

4. I feel that generally I can produce better solutions working on my own than in a Synectics group. [ ]

5. I would welcome an opportunity for more discussion than Synectics process permits. [ ]

6. The leader role appears to me to be mechanical and rigid. [ ]

7. I always have ideas on 'How to' statements. [ ]

8. Once a Synectics meeting starts, I soon become involved in a client's problem. [ ]

9. I try to keep in the background during Synectics meetings. [ ]

10. The client should pick the 'How to' statement that correctly defines the problem. [ ]

-PLEASE PUT NUMBER IN EACH BOX-

1	2	3	4	5	6	7
wholly disagree	mostly disagree	slightly disagree	indifferent	slightly agree	mostly agree	wholly agree

AS PARTICIPANT -

11. I find it difficult to build on other participants' images during the Excursion. [ ]

12. If I do not understand a client's problem I tend not to listen attentively. [ ]

13. I will always voice a concern about a client's possible solution if I recognise one. [ ]

14. I dislike fast paced Synectics meetings. [ ]

15. I have difficulty in 'force fitting' the fantasy material of the Excursion to reality. [ ]

16. It is very easy for me to adjust to a Synectics style of meeting. [ ]

17. I often miss steps in the Synectics process when working on my own. [ ]

18. I dislike other participants who talk too much. [ ]

19. My ideas are always the best. [ ]

20. I enjoy putting forward speculative 'How to' statements and ideas. [ ]

-PLEASE PUT NUMBER IN EACH BOX-

1	2	3	4	5	6	7
wholly disagree	mostly disagree	slightly disagree	indifferent	slightly agree	mostly agree	wholly agree

AS PARTICIPANT -

21. I can make a contribution without having any knowledge of the problem. ☐

22. Images often pass through my mind during the 'How to' stage of the Synectics process. ☐

23. I prefer leaders who adhere strictly to Synectics process. ☐

24. I find it difficult to come down to earth at the end of the Excursion. ☐

25. I get more out of Synectics working on my own rather than in a group. ☐

26. I tend to ramble rather than 'Headline' during Synectics meetings. ☐

27. Synectics meetings generally bore me. ☐

28. I prefer Synectics sessions without the Excursion. ☐

29. I much prefer to work in a two person Synectics meeting than a full group session. ☐

30. I am often out of sympathy with the way a client directs the building of ideas. ☐

-PLEASE PUT NUMBER IN EACH BOX-

1	2	3	4	5	6	7
wholly disagree	mostly disagree	slightly disagree	indifferent	slightly agree	mostly agree	wholly agree

AS PARTICIPANT -

31. I do not readily get images in my mind during the Excursion. ☐

32. I do not enjoy working in such a structured manner as a Synectics meeting. ☐

33. I tend to come down to earth before other participants in the Excursion. ☐

34. I rarely become emotionally committed to resolving a client's problem. ☐

35. I try to inject some life into Synectics meetings any way I can. ☐

36. Sounds and/or smells often accompany my images during the Excursion. ☐

37. I often have ideas/solutions for the client's problem early in Synectics meetings. ☐

38. I enjoy the excitement and enthusiasm generated in a Synectics meeting. ☐

39. I am put off by the absurdity of the Excursion. ☐

40. I feel inhibited by a leader who strictly controls Synectics process. ☐

-PLEASE PUT NUMBER IN EACH BOX-

1	2.	3	4	5	6	7
wholly disagree	mostly disagree	slightly disagree	indifferent	slightly agree	mostly agree	wholly agree

AS PARTICIPANT -

41. I sometimes become impatient with too talkative clients. ☐

42. It is very easy for me to generate 'How to' statements in Synectics meetings. ☐

43. I think that the Excursion is irrelevant to Synectics process. ☐

44. I need to understand all aspects of a client's problem to participate successfully. ☐

45. I often prefer to stay up in fantasy during the Excursion. ☐

46. My bias is to put forward logical and practical 'How to' statements and ideas. ☐

47. It is very easy for me to be speculative in Synectics meetings. ☐

48. The more fantasy and speculation generated, the more I enjoy a Synectics meeting. ☐

49. I often feel hampered by Synectics process. ☐

50. I readily contribute to Synectics meetings even when I do not understand the problem. ☐

PLEASE CHECK THAT YOU HAVE RESPONDED TO EACH OF THE STATEMENTS.

Thank you for your co-operation in completing this questionnaire.

APPENDIX 8

STATISTICAL RESULTS :

FACTOR ANALYSIS OF S.Q.S.Q. DATA

REFERENCE Q-SORTS

Statement No.	Reference Q-Sort					Statement No.	Reference Q-Sort				
	I	II	III	IV	V		I	II	III	IV	V
1	1	5	7	5	6	26	2	3	2	2	1
2	3	5	7	3	4	27	2	2	2	3	4
3	7	6	5	6	4	28	5	3	4	3	4
4	5	3	6	3	3	29	5	2	4	5	3
5	4	5	5	3	6	30	5	3	4	4	4
6	2	2	4	4	3	31	5	3	6	7	5
7	7	2	5	6	4	32	4	6	5	4	3
8	7	6	4	6	5	33	2	3	1	3	2
9	2	5	4	3	3	34	2	3	4	1	3
10	2	2	1	3	2	35	5	4	3	3	5
11	4	3	2	4	3	36	5	4	4	4	6
12	5	2	5	5	4	37	5	5	4	1	7
13	5	3	4	5	5	38	7	7	6	2	4
14	4	4	4	3	4	39	5	4	3	3	5
15	6	5	5	6	5	40	2	3	1	2	3
16	6	1	2	4	5	41	6	2	5	4	5
17	7	5	6	6	7	42	5	3	4	3	5
18	7	3	7	6	5	43	1	5	4	5	5
19	7	2	6	7	4	44	2	1	1	1	1
20	7	2	3	4	5	45	5	6	7	5	6
21	6	6	6	6	5	46	3	2	3	7	5
22	7	3	4	6	5	47	7	3	7	4	5
23	4	3	4	4	3	48	5	4	3	5	4
24	2	2	2	1	3	49	5	4	4	3	5
25	2	4	4	1	3	50	2	3	2	1	2

Key :

1	2	3	4	5	6	7
wholly disagree	mostly disagree	slightly disagree	indifferent	slightly agree	mostly agree	wholly agree

INTERCORRELATIONS AMONG IDENTIFIED FACTOR SCORES

	I	II	III	IV	V
I	-				
II	0.17	-			
III	0.29	-0.21	-		
IV	0.45	0.16	-0.28	-	
V	-0.27	0.16	0.34	-0.24	-

The range of the scores is between -0.28 and 0.45, with a median r of 0.14. These values are sufficiently low to infer that there are 5 separate style factors, as defined by the scoring criteria of the reference Q-Sorts.

.....

APPENDIX 9

STATISTICAL RESULTS :

T.A.F. A and B DATA

Notes on Analysis of Variance

i) A mixed model was used to carry out the analysis of variance because the data collection involved repeated observations of a limited number of groups. The model allowed both random and fixed effects to be taken into account.

ii) The data were time-adjusted so as to make the analysis of variance meaningful. The adjustment required standardising the time series of the session data.

iii) The analysis of variance tables are derived primarily from solutions per session data.

Key :

d.f. : degrees of freedom
M.S. : Mean Square
S.S. : Sum of the Squares

.....

EFFECT OF LEADERSHIP AND CLIENTSHIP STYLES ON THE NUMBER OF SOLUTIONS

CLIENTSHIP Style	LEADERSHIP Style		
	Full-Control	Shared-Control	Absent-Control
Explicit (88)	1 1 1 1 1 1 2 2 1 1 2 1 1 0 1 1 1 2 2	2 2 2 2 0 2 1 0 2 1 2 4 1 2 2 3 2 2 2 0	0 2 1 1 1 3 2 1 0 2 2 0 0 1 0 2 1 1 2 2 2 2 3
Ambivalent (49)	0 2 1 2 1 0 2 2 3 2 3 2 2	2 1 2 1 1 2 1 0 1 0 1	2 1 2 2 0 2 2 0 0 2 1 1
Total	45	46	46

137

Analysis of Variance

Source	S.S.	d.f.	M.S.	F
Rows	3.81	1	3.81	.63
Columns	542.60	2	272.30	2.14
Interaction	81.62	2	40.81	33.02
Error	83.20	52	1.60	
	711.23	57		

.....

EFFECT OF LEADERSHIP AND CLIENTSHIP STYLES ON THE NUMBER OF SOLUTIONS

CLIENTSHIP Style	LEADERSHIP Style			Total
	Full-Control	Shared-Control	Absent-Control	
Ambivalent	22	12	15	49
Explicit	23	34	31	88
Total	45	46	46	137

EFFECT OF LEADERSHIP AND CLIENTSHIP STYLES ON THE NUMBER OF SYNECTICS SESSIONS

CLIENTSHIP Style	LEADERSHIP Style			Total
	Full-Control	Shared-Control	Absent-Control	
Ambivalent	13	11	12	36
Explicit	19	20	23	62
Total	32	31	35	98

EFFECT OF LEADERSHIP AND CLIENTSHIP STYLES ON THE NUMBER OF SOLUTIONS PER SESSION

CLIENTSHIP Style	LEADERSHIP Style			
	Full-Control	Shared-Control	Absent-Control	
Ambivalent	1.692	1.091	1.250	1.361
Explicit	1.211	1.700	1.348	1.419
	1.219	1.484	1.314	1.398

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EFFECT OF CLIENTSHIP STYLES AND SYNECTICS SESSIONS ON THE NUMBER OF SOLUTIONS

CLIENTSHIP Style	Month						Total
	N	D	J	F	M1	M1	
Ambivalent	8	8	12	7	6	8	49
Explicit	13	14	14	13	15	19	88
Total	21	22	26	20	21	27	137

EFFECT OF CLIENTSHIP STYLES AND SYNECTICS COURSES ON THE NUMBER OF SESSIONS

CLIENTSHIP Style	Month						Total
	N	D	J	F	M1	M2	
Ambivalent	6	5	7	7	5	6	36
Explicit	9	11	11	9	10	12	62
Total	15	16	18	15	18	18	98

EFFECT OF CLIENTSHIP STYLES AND SYNECTICS COURSES ON SOLUTIONS PER SESSION

CLIENTSHIP Style	Month						
	N	D	J	F	M1	M2	
Ambivalent	1.333	1.600	1.714	1.000	1.200	1.333	1.361
Explicit	1.444	1.272	1.272	1.444	1.500	1.583	1.419
	1.400	2.000	1.444	1.250	1.400	1.500	1.398

EFFECT OF LEADERSHIP STYLES AND SYNECTICS COURSES ON THE NUMBER OF SESSIONS

LEADERSHIP Style	Month						Total
	N	D	J	F	M1	M2	
Full-Control	4	6	5	5	6	6	32
Shared-Control	6	4	7	5	5	4	21
Absent-Control	5	6	6	6	4	8	35
Total	15	16	18	16	15	18	98

EFFECT OF LEADERSHIP STYLES AND SYNECTICS COURSES ON THE NUMBER OF SOLUTIONS

LEADERSHIP Style	Month						Total
	N	D	J	F	M1	M2	
Full-Control	6	5	8	6	7	8	40
Shared-Control	8	8	8	7	7	9	47
Absent-Control	7	9	10	7	7	10	50
Total	21	22	26	20	21	27	137

EFFECT OF LEADERSHIP STYLES AND SYNECTICS COURSES ON SOLUTIONS PER SESSION

LEADERSHIP Style	Month						
	N	D	J	F	M1	M2	
Full-Control	1.500	1.200	1.600	1.200	1.667	1.333	1.250
Shared-Control	1.333	2.000	1.143	1.400	1.400	2.250	1.517
Absent-Control	1.400	1.500	1.667	1.667	1.750	1.250	1.429
	1.400	1.375	1.444	1.250	1.400	1.500	1.398

Analysis of Variance

	S.S.	d.f.	M.S.	F
Between Groups	19.47	1	19.47	0.539
Within Groups	722.20	20	36.11	
Total	741.67	21		

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EFFECT OF LEADERSHIP AND CLIENTSHIP STYLES ON THE NUMBER OF SOLUTIONS (SESSIONS WITH EXCURSIONS)

CLIENTSHIP Style	LEADERSHIP Style			Total
	Full-Control	Shared-Control	Absent-Control	
Ambivalent	6	11	9	26
Explicit	10	12	24	46
Total	16	23	33	72

EFFECT OF LEADERSHIP AND CLIENTSHIP STYLES ON THE NUMBER OF SOLUTIONS (SESSIONS WITHOUT EXCURSIONS)

CLIENTSHIP Style	LEADERSHIP Style			Total
	Full-Control	Shared-Control	Absent-Control	
Ambivalent	16	1	6	23
Explicit	13	20	9	42
Total	29	21	15	65

Analysis of Variance

,	S.S.	d.f.	M.S.	F
Between Groups	30.24	1	30.24	0.617
Within Groups	1028.58	21	48.98	
Total	1058.82	22		

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RANGE OF SOLUTIONS AND MALE-FEMALE DIFFERENCES IN TERMS OF THE NUMBER OF SYNECTICS SESSIONS

CLIENT	Range of Solutions					Total
	0	1	2	3	4	
Male	13	26	31	5	1	76
Female	3	8	11	0	0	22
Total	16	34	42	5	1	98

RANGE OF SOLUTIONS AND MALE-FEMALE DIFFERENCES IN TERMS OF THE NUMBER OF SOLUTIONS

CLIENT	Range of Solutions					Total
	0	1	2	3	4	
Male	0	27	67	10	4	108
Female	0	7	17	5	0	29
Total	0	34	84	15	4	137

Analysis of Variance

	S.S.	d.f.	M.S.	F
Between Groups	43.41	1	43.41	0.623
Within Groups	1254.78	18	69.71	
	1298.19	19		

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RANGE OF SOLTIONS AND STAGES IN SYNECTICS GROUP DEVELOPMENT IN TERMS OF THE NUMBER OF SYNECTICS SESSIONS

Stage	Range of Solutions					Total
	0	1	2	3	4	
Orientation	4	12	14	2	1	33
Exploration	7	10	15	2	0	34
Autonomous	5	12	13	1	0	31
Total	16	34	42	5	1	98

RANGE OF SOLUTIONS AND STAGES IN SYNECTICS GROUP DEVELOPMENT IN TERMS OF THE NUMBER OF SOLUTIONS

Stage	Range of Solutions					Total
	0	1	2	3	4	
Orientation	0	14	29	3	1	47
Exploration	0	9	31	7	2	49
Autonomous	0	11	24	5	1	41
Total	0	34	84	15	4	137

Analysis of Variance

	S.S.	d.f.	M.S.	F
Between Groups	37.64	1	37.64	0.755
Within Groups	1196.16	24	49.84	
Total	1233.80	25		

APPENDIX 10

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