
**DESIGN AND CONVERSATIONAL EVALUATION OF AN
INFORMATION TECHNOLOGY LEARNING ENVIRONMENT**

BASED ON

SELF - ORGANISED - LEARNING

A Thesis submitted for the degree of Doctor of Philosophy

by

Steven John Coombs

Centre for the Study of Human Learning

and

Post Graduate Division of Human Learning

Brunel University

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Design and Conversational Evaluation of an Information Technology Learning Environment Based on Self - Organised - Learning (S-O-L)

Abstract

From 1990 to 1993 I was engaged as the Information Technology (IT) Workshop manager at Mid-Cornwall College, St. Austell. My mission during this period was to develop a new kind of IT learning environment. The main purpose was - and continues to be - to provide for mixed 'open-access' student targets wishing to pursue generic IT activities and gain commensurate vocational qualifications. This Open-Learning (OL) environment provides on-the-job curriculum development of IT learning support systems, through a Flexible Learning (FL) management policy. An action research approach based on S-O-L provides both the methodology and technology for implementing a learning organisation. A key objective was institutional change towards the learning management policy of IT, through appropriate deployment of staffing and courseware resources to enable the practice of student centred learning. Another aim was to integrate and mix all target groups of learners together in the same domain, i.e. school leavers with adult returners for the achievement of a cost-effective, well-co-ordinated and productive learning environment.

My action research applied the Centre for the Study of Human Learning's (CSHL's) ideas and tools towards the development of the IT Workshop's learning policy. I have sought to make the connection between FL delivery of the generic IT curriculum and the SOL approach towards individual and organisational learning. This came about from the link between the FL philosophy of learner-centred activity and the SOL philosophy of empowering individuals via Learning Conversations. S-O-L 'Systems-7' was adopted as a conversational tool for developing the educational rôles and practices of the IT Workshop. This influenced my college to make essential environmental changes to the workshop in order to develop these activities. The project also used the Personal Learning Contract (PLC) to manage and enable the 'learning-to-learn' activities of individual IT learners. With the PLC as the central tool for implementing Learning Conversations, there evolved the idea of 'Group Learning Contracts' (GLCs). This led to the practical development of 'Learning Plans' (LPs), such that IT flexible modules could be transferred to the autonomy of the learner. Evaluations from this project included sample case-study evidences of Learning Conversations obtained from individual IT case-load students. Repertory grid feedback conversations of learning experienced by individual staff members taking part in the project were also obtained. Questionnaire results from IT learners was used as another method of feedback, and conversationally evaluated using factor analysis and 'talkback' records. All the action research qualitative evidences were finally analysed using conversational techniques, leading to the overall project 'findings'.

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Contents

Section	Page no.
Abstract	i
Acknowledgements	ii
Contents	iii
Glossary	xiv
Chapter 1 The Information Technology Workshop as Part of a S-O-L-based Action Research Programme	
1.1 Introduction	1
1.2 Initial purposes of the IT Workshop.....	4
1.2.1 Origins of the core-skills Flexible Learning initiative.....	4
1.2.2 Difficulties in changing from a Conventional Learning to Flexible Learning practice paradigm	5
1.3 The search for an organisational management model to develop the 'Management of Learning' policy for delivering Generic IT.....	11
1.4 Development of Generic IT Flexible Learning modules as SOL plans.....	13
1.4.1 Origins of IT as computer literacy.....	13
1.4.2 A Flexible Learning workshop as a means of delivering IT	14

1.4.3	Introduction of C+G 7261 IT modules at Mid-Cornwall College	17
1.4.4	Generic versus specific IT applications.....	18
1.4.5	Towards SOL managed ITFM learning plans...	21
1.5	Summary of the experimental activities and conversational evaluations employed	22
1.5.1	Learning plans	22
1.5.2	The Self Organised Learner's study kit.....	24
1.5.3	Social learning field evaluations	26
 Chapter 2 The Action Research Theoretical Framework		
2.1	Rationale and relevance of areas to be investigated.....	28
2.1.1	Summary of the IT Workshop's project needs ..	28
2.1.2	Problems of implementing Flexible Learning at the College.....	29
2.1.3	Action research to explore how the new paradigm social psychology experimental approach integrates with the S-O-L conversational paradigm	32

2.2	Key fields of investigation : Further Education and applied research issues	37
2.2.1	Contemporary aims and purposes of FE.....	37
2.2.2	Mixed learner targets: Social interaction considerations for transitional group learners working in an open-systems FL environment...	41
①	The social work 'practice-team' approach to staff groups	46
②	Open, closed, primary and secondary groups ...	47
③	Small and voluntary group formations	48
④	Interaction and group communication processes	50
2.2.3	Active and autonomous student learning.....	56
2.2.4	Open and Flexible Learning (OL/FL) workshops as a social learning scenario for IT.....	68
2.2.5	Individual tutoring system to support on-the-job accreditation of prior learning and achievement (APLA)	78
2.2.6	Integrating authoritative and personal assessments	84
2.2.7	IT management:- Principles, aims and needs ...	85

Chapter 3	SOL, Learning Conversations and Action Research	
3.1	Key fields of investigation : SOL and learning conversation theories adopted for this project ..	93
3.1.1	Introduction to SOL	93
3.1.2	Processes defining SOL and Learning Conversations	103
①	The Learning Conversation (LC)	103
②	Three stages of personal awareness.....	112
③	The Personal Learning Contract (PLC)	118
④	The Personal Learning Biography (PLB)	122
⑤	The 'Systems 7' S-O-L environment.....	123
3.1.3	Conversational Tools (CTs) to enable SOL....	125
①	What are Conversational Learning Tools?	125
②	Conversational Tools for action research evaluation	131
3.2	Key fields of investigation : New paradigm social psychology research methods as part of a SOL action research agenda	138
3.2.1	Influences behind new paradigm social psychology.....	138
3.2.2	A SOL action research paradigm as a praxiological experimental method	149

Chapter 4	SOL 'Systems 7' and the Personal Learning Contract in Practice	
4.1	Rationale behind a systems approach to managing the IT Workshop - The original action research proposal	160
4.2	The SOL 'PSOR' learner-learning management model.....	163
4.3	How SOL 'Systems 7' was adopted for the IT Workshop	164
4.4	Application of the SOL 'PLC' for tutorial management of IT Flexible Modules.....	166
Chapter 5	The Development and Testing of Learning Plans as Conversational Tools	
5.1	Synopsis of the IT tutorial system developed .	170
5.2	Development of IT Flexible Modules (ITFMs) for 'mixed' learner targets	178
5.3	Development of the 'Universal Design Template' (UDT) as an IT modular FL framework	183
5.4	ITFM learning plans developed	186
5.5	Non-IT applications of the 'UDT'	189
5.6	ITFMs and IT curriculum development.....	192

Chapter 6	Action Research Results and Conversational Evaluations from the IT Workshop Project	
6.1	The overall evaluation policy	196
6.2	Evaluations from IT student-learners	201
6.2.1	The scope and range of student evaluations ...	201
6.2.2	Evaluations of Personal Feedback Questionnaires (PFQs)	203
6.2.3	Evaluations taken from 'ITFM' student accounts	211
6.2.4	Reflective feedback accounts from Certificate of Education (Cert. Ed.) students.....	217
6.2.5	Social learning observations in the IT Workshop	228
6.3	Conversational evaluations from staff involved in the IT Workshop domain	232
6.3.1	Problems and difficulties experienced.....	232
6.3.2	Evaluations using repertory grids.....	233
6.3.3	Accounts of Learning Conversations	240
6.4	'Time-Line' evaluations of the action research	252

Chapter 7 Key Conversational 'Findings' from the Action Research Project

- 7.1 Overall 'findings' from the action research development255
 - 7.1.1 Development of IT and FL educational systems255
 - 7.1.2 IT Workshop staff development.....260
 - 7.1.3 The evolution of the IT Workshop into a FLC265
 - 7.1.4 Development of 'Conversational Learning Tools'267
 - 7.1.5 Summary of my own personal learning.....269
- 7.2 Action research implications for future practice and development.....275
 - 7.2.1 Key transferable principles for other colleges 275
 - ① Creating an action research-based learning culture277
 - ② Practitioner learning teams and social parity ..279
 - ③ FL/SOL 'systems-based' solutions for 'Learning Organisations'280
 - ④ IT systems and learning policy.....283
 - ⑤ What to avoid.....284

7.2.2	Future developments and opportunities for S-O-L action research	288
7.2.3	How Systems 7 S-O-L could ideally operate in a flexible IT learning environment.....	292

References & Bibliography

Key references.....	296
Bibliography.....	307

AppendicesIndexed from A to J in Volume 2

Appendix A: National Council for Educational Technology IT Management Figures	1
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Appendix B: Social Learning Proposals - Development Evidences.....	6
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B1	Original application for external funding of student-centred learning. Open access communications and IT Workshops at Mid- Cornwall College - May 1st. 1990.	7
B2	Reports to FL co-ordinator - May 23/24th. 1990	15
B3	IT Workshop progress report 1 - July 13th. 1990	24
B4	IT Workshop progress report 2 - Oct. 28th. 1990	35
B5	IT Workshop progress report 3 - Dec. 4th. 1990	40

B6	'Peer-tutor' sponsorship mail-merge for the IT Workshop - Oct. 7th. 1992.....	46
Appendix C: SOL Study Kit, Version 2		51
Appendix D: IT Flexible Module Learning Plans.....		78
Appendix E: Francis and Simon's IT/FL Option - 'Universal Design Template' Flexible Learning Development Projects for the Cert. Ed.....		90
Appendix F: Student Evaluation Records.....		142
F1	Sample print-outs of 'SPSS' factor analysis data files - for surveys PFQ0 and PFQ1.....	144
F2	Factorgrams and 'Talkback' records produced from 'SPSS' factor analysis dimensional 'loadings'	157.
F3	Case account:- Geoff Edwards	191
F4	Case account:- Jonathon Leonard.....	209
F5	Case account:- Heidi Johns	248
F6	Case account:- Johanna Webberley	271
F7	Case account:- Linden Jones.....	309
F8	Case account:- Kevin Treleaven.....	332
Appendix G: Cert. Ed. IT Flexible Module Professional Development Reflective Accounts		359
G1	Jenni Newton	360
G2	Chris Johnson	388

G3	Hilary Baker	425
G4	John Perry	433
Appendix H: Social Observation Records & Repertory		
Grid Conversations.....		483
H1	Social observation records	484
H2	Repertory grid :- Steve Coombs	495
H3	Repertory grid :- John Perry	510
Appendix I: Staff Evaluations.....		
522		
I1	Repertory grid evidences:- Steve Coombs.....	523
I2	Repertory grid evidences:- John Perry.....	562
I3	Repertory grid evidences:- Hilary Baker	588
I4	Repertory grid evidences:- Sue Rawlings.....	607
I5	Repertory grid evidences:- Peter Reed	633
I6	IT Workshop staff evaluations - Summative accounts transcribed from personally recorded interviews.	642
I7	Own evaluations of key action research project events.....	650
Appendix J: Conclusions from the Action Research - IT		
Workshop 'Change-Management' Slides, Disseminated during Consultation Phases of College Amalgamation.....		657

Dedications

I would like to dedicate this thesis to Lynne and Nathan

To quote:-

" How do things happen..... by default or design? Default implies a chance arrangement according to accepted practices, whereas design both anticipates and encompasses the vision of how the practice might be, according to the available levels of awareness."

The author

" All thinking about thinking implies self-reference. ...I hold that each man has a self, and enlarges his self by his experiences. That is, he learns from experience, from the experiences of others as well as his own, and from their inner experiences as well as their outer."

Jacob Bronowski, from 'The Identity of Man'

GLOSSARY

Technical, Philosophical & Educational acronyms

Acronym Description

ABC	A Basis for Choice
AI	Artificial Intelligence
APL	Accreditation of Prior Learning
APLA	Accreditation of Prior Learning and Achievement
AVA	Audio and Visual Aids
BBC	British Broadcasting Corporation
BEC	Business Education Council
BTEC	Business and Technician Education Council
C+G	City & Guilds, of London Institute
C-indi	Conversational Individual
CBI	Confederation of British Industry
CEF	College Employers Forum
CET	Council for Educational Technology
Cert. Ed. (FE)	Certificate in Education (Further Education)
CIRO	Contents - Input - Reaction - Outcome
CL	Conventional Learning
CPVE	Certificate for Pre-Vocational Education
CSHL	Centre for the Study into Human Learning
CT	Conversational Tool
DDA	Discursive Discourse Analysis
DELTA	Distance Education, Learning and Training group
DES	Department of Education and Science
DfE	Department for Education
DOS	Disk Operating System
DoE	Department of Employment
DTP	Desk-Top Publishing
EEC	European Economic Community
EFL	English as a Foreign Language
ESG	Education Support Grant
EU	European Union
FDL	Flexible and Distance Learning
FE	Further Education
FEFC	Further Education Funding Council
FEU	Further Education Unit
FL	Flexible Learning
FLC	Flexible Learning Centre
GCSE	General Certificate of Secondary Education
GDA	Goal Directed Activity
GLC	Group Learning Contract
GNVQ	General National Vocational Qualification
HE	Higher Education
HLI	Human Learning Interface
HRI	Human Resource Interface
ILS	Intelligent Learning System
INSET	In-Service Training
IT	Information Technology
ITFM	Information Technology Flexible Modules

JFHE	Journal of Further and Higher Education
KBS	Knowledge Based System
KES	Knowledge Elicitation System
LC	Learning Conversation
LEA	Local Education Authority
LRDG	Learning Resources Development Group
M-indi	Mechanical Individual
MAR ⁴ S	Monitor - Analyse - Review, Reflect etc., Spiral
MBA	Master in Business Administration
MCC	Mid-Cornwall College
MIT	Massachusetts Institute of Technology
MMI	Man Machine Interface
MSC	Manpower Services Commission
NCE	National Commission for Education
NCET	National Council for Educational Technology
NVQ	National Vocational Qualification
OL	Open Learning
OLC	Open Learning Centre
P-indi	Psychological Individual
PCT	Personal Construct Theory
PFQ	Personal Feedback Questionnaire
PLB	Personal Learning Biography
PLC	Personal Learning Contract
PMS	Personal Management System
PR	Personal Record
PRI	Personal Resource Interface
PRL	Personal Review Log
PSOR	Purpose - Strategy - Outcome - Review
R&D	Research and Development
RPnnn	Research Programme 'nnn'
S-O-Ler	Self-Organised Learner
SAC	St. Austell College
SEN	Special Educational Needs
SMT	Senior Management Team
SOL	Self Organised Learning
T - C	Teacher, trainer, coach, counsellor
TEC	Technician Education Council
TEED	Training Employment and Education Directorate
TES	Times Education Supplement
TVEE	Technical and Vocational Education Extension
TVEI	Technical and Vocational Education Initiative
UDT	Universal Design Template

CHAPTER 1 : The IT Workshop as Part of a S-O-L-based Action Research Programme

1.1 Introduction

This introduction shows how my action research project came about and disseminates the social circumstances and context surrounding my working life as an IT manager. It then elaborates the origins of my personal action research. This was negotiated and developed with the help of my tutor Sheila Harri-Augstein, from the Centre for the Study of Human Learning (CSHL), Brunel University, UK. The introduction then provides an overview of the organisational and learning management models developed between myself and colleagues as practical solutions of the operational function of the IT Workshop (a flexible learning IT centre based at Mid-Cornwall College¹ of Further Education, St. Austell).

In 1990 my college was one of two main FE centres serving the mostly rural population of Cornwall. There are about two thousand full-time students enrolled in the college, with roughly double that number attending as part time adults from the local community. One very important social aspect of my action research was to use the IT Workshop as an open-access centre for all student groups.

¹Mid-Cornwall College (MCC) joined up with St. Austell Sixth-Form College to become St. Austell College (SAC) on the 1st. of April 1993.

This mission was governed by the notion that, on the one hand, it might increase the motivational attitudes towards learning of teenage school leavers, while on the other opening-up a valuable resource to the wider community. The philosophical and theoretical frameworks that underpin my ideas will be summarised now, but the main arguments are made in chapters 2 and 3.

The fields of study I have inquired into include:-

- contemporary Further Education;
- applied research relative to my own fields of Information Technology (IT), Further Education (FE), Flexible Learning (FL), and Self-Organised Learning (S-O-L or SOL);
- general educational theory;
- social group theory;
- self-organised learning and learning conversations relative to personal and organisational management practice;
- personal construct theory, repertory grids and factor analysis;
- and lastly, new paradigm approaches to social psychology research.

It was from this initial core of thinking that many of the S-O-L based conversational tools and practices were developed, adapted and tested out within the IT Workshop.

The CSHL-designed S-O-L conversational tools used and adapted include:

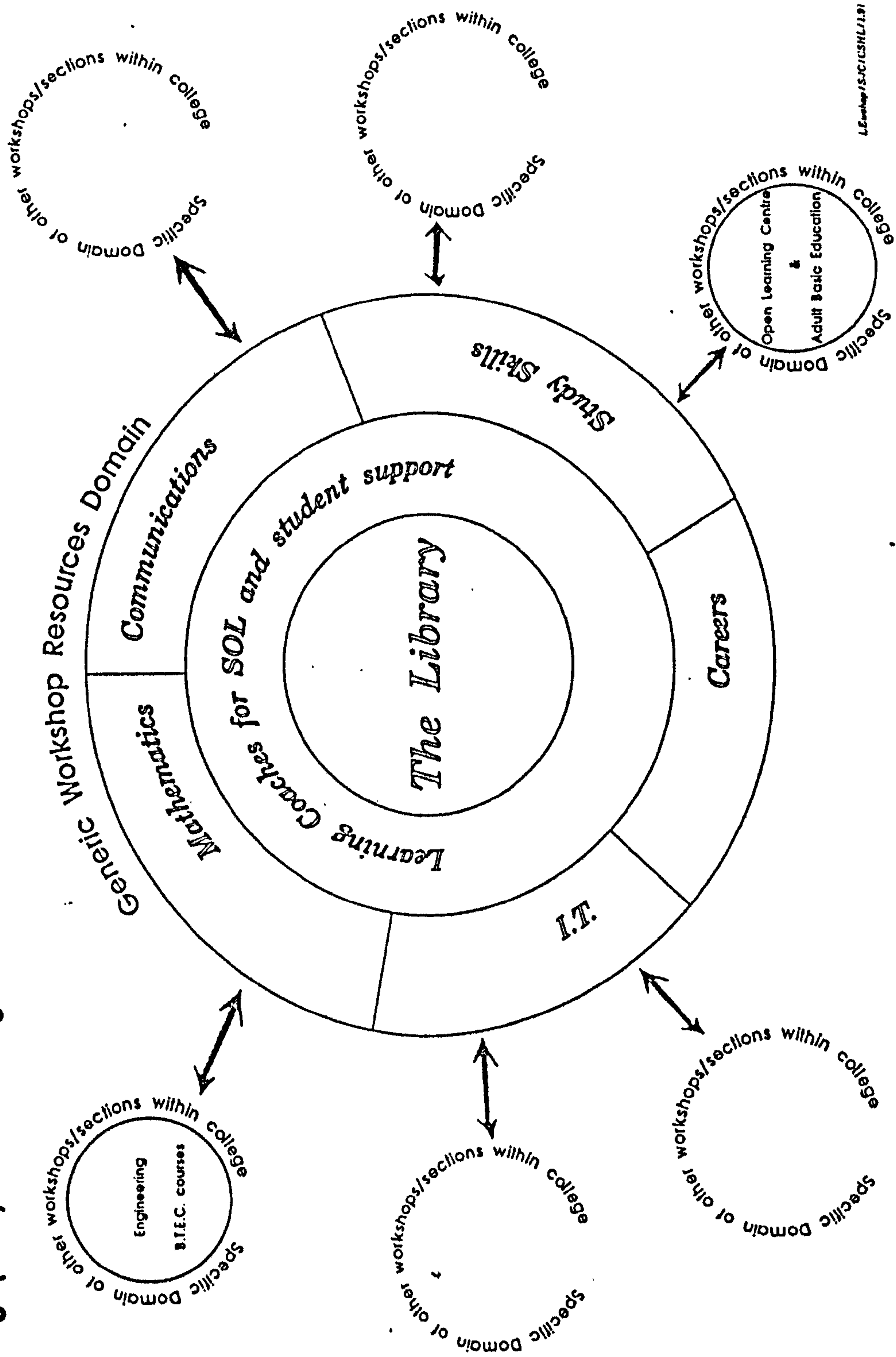
- the three stages of awareness towards S-O-L linked to Personal Learning Biographies;
- the Personal Learning Contract (or PLC) related to the S-O-L 'PSOR' process;
- 'Systems 7' for SOL environments;
- repertory grid conversational processes, including: SPACEd, FOCUSed and CHANGE grids;
- the Learning Conversation process² - its structure and organisation, including the MA(R)⁴S heuristic.

My thesis concentrates on these practices and how they have been developed in the real-life social experimental field. This will be shown to be the key axiom of the new paradigmatic social psychology research method. Analysis of evidence will be fed back in the form of individual conversational case accounts that have been built into the educational process. A novel and interesting technique for the analysis of questionnaires has also been investigated and developed³ by myself and Professor Laurie Thomas from CSHL. This involved designing questionnaires to find out about student learning attitudes and PLC feedback. Personal evidence from myself and colleagues has been analysed, using the CSHL conversational repertory grid approach.

²See chapter 3 section 3.1.2 - Processes defining S-O-L and learning conversations, where S-O-L PLC's and 'Systems 7' are more fully covered.

³Factorgram analysis - a *conversational factor analysis* technique for the discursive analysis of questionnaires; applying Kelly's Personal Construct Theory (PCT) [Kelly, 1955] as a qualitative analysis tool, laddering-up standard factor analysis quantitative data output in order to determine and attribute meaning to the underlying factor dimensions of the collected responses.

fig.(1.1) Learning Environment Paradigm at Mid-Cornwall College



LEARNING/SC/CSHL/1.1

1.2 Initial purposes of the IT Workshop

1.2.1 Origins of the core-skills Flexible Learning initiative

In 1990 the Governors at Mid-Cornwall College (MCC), St. Austell, accepted internal funding proposals to set-up flexible access workshops in order to service cross-curricular core skills entitlements as part of the TVEE⁴ initiative. This led to the creation of generic core-skills workshops to be 'centred' around the library as part of an overall flexible learning environment paradigm for Mid-Cornwall College (see fig.(1.1)). These core curricular services became generic workshops, providing student access to Information Technology (IT), mathematics, communications, careers and study skills. The college librarian was appointed as Flexible Learning (FL) co-ordinator and myself as IT Workshop manager. From this position, I set about identifying ways and means of ensuring the long-term success and development of this venture.

To understand the scope and scale of the problem that I have attempted to resolve, it is necessary to explain the educational context that I operated within prior to 1990.

⁴The Government Technical and Vocational Education Initiative (TVEI) of the 1980's was extended in 1990, to become the Technical and Vocational Education initiative Extension (TVEE). Part of this programme included development funding of specific curricular projects in FE colleges, that built upon previous curriculum development targeted funding in the form of education support grants or ESG's. In our case at Mid-Cornwall College, we used the TVEE funding to increase the flexible access by any student to:- IT, mathematics, communications, study skills and careers resources, through a workshop delivery methodology, thereby enabling these entitlements as part of the TVEE criteria, administered through the Training Commission as it was known then.

Since 1979 (four years before I arrived at the College) the Audio-Visual-Aids (AVA) sub-committee of the College's academic board had made a similar proposal to set up core curricular workshops, with the library at its centre. However, this scheme was not implemented⁵ for over a decade. Subsequent and numerous attempts were made over time to resurrect these original proposals, with the full backing of the many external vocational education initiatives⁶. All of these external initiatives were keen to promote a more flexible and activities-based student-centred approach to teaching and learning⁷.

1.2.2 Difficulties in changing from a Conventional Learning to Flexible Learning practice paradigm

The question therefore arises as to why the FL workshop had not been developed at Mid-Cornwall College for so long a period, despite an apparent institutional policy commitment? My personal analysis of this question, back in 1990, was that the College had been stuck in a traditional conservative paradigm of how learning should be delivered in practice.

⁵Despite becoming part of apparent college policy. The ideas inspired were debated and accepted each time by various academic board sub-committees convening over the years, and subsequently drafted into the official reports representing college policy.

⁶This backing from outside bodies supported the idea of FL and the use of core workshops as part of the educational delivery needs requirement. Vocational education initiatives throughout the 1980's included the Certificate for Pre-Vocational Education (CPVE), the Education Support Grants (ESG's), merger of the Business Education Council and Technician Education Council (BEC & TEC) to become BTEC etc. (see glossary of technical, philosophical and educational acronyms used)

⁷All these initiatives had been initially inspired by the Further Education Unit (FEU) report - 'A Basis for Choice' (ABC), first published in 1979 [FEU, 1979], along with a litany of subsequent FEU research reports, studies etc. All of these promoted the philosophy and practical deployment of active and student-centred learning, as a means of delivering the vocational curriculum. Such a system was identified as providing maximum relevance for those school-leaver targets seeking a non-academic route into professional skills training.

This was in spite of all the pressures for change from external educational bodies. This reality was reinforced - indeed, aided and abetted - by a traditional 'mode of delivery' funding mechanism⁸, dictated by the DES through the LEA's.

However, new funding models for FL and Open Learning (OL) in general were starting to appear as useful alternative solutions⁹. Despite pushing for these economically viable alternatives, I and other colleagues experienced stiff resistance to any of the proposed changes, i.e. an unwillingness to move away from the conventional learning (CL) delivery of learning management model. Such a move is an essential pre-requisite¹⁰ for staffing and resourcing FL workshops intending to manage and deliver a specific curriculum area to diverse student targets.

As a consequence of reading for this research project - and through shared reflection with my tutor - I have now identified some explanations regarding this 'unwillingness' towards change. Stiff-resistance towards institutional change and practice has been explored by Peter Senge¹¹.

⁸Traditional funding mechanisms assumed the conventional educational practice paradigm, whereby class-contact hours and staff student ratios (SSR's) depended on formal classroom contact sessions as the perceived educational management learning scenario. This was a frustrating situation for myself and other sympathetic colleagues, as we desperately wanted to change our practice. The situation seemed to be exacerbated when we had a line-up between teachers and outside bodies in favour of change, but our managers refusing to allow it to happen. The managers stuck to the conventional learning delivery paradigm of teachers timetabled to give group-based sessions. This refusal to allow teaching hours credit for working in educational workshops meant there was no way that FL delivery could be meaningfully staffed and thereby prevented its development within the college.

⁹ [Dixon, 1987]

¹⁰ [FEU-Flexible Colleges, 1990]

¹¹Organisational change-management issues have been researched from Peter Senge's review article:- 'The Leader's New Work..', published by the Sloan School of Management based at MIT, [Senge, 1990].

In his review article 'The Leader's New Work : Building Learning Organisations', Senge discriminates between adaptive learning and generative learning as two separate policies for learning organisations¹². Adaptive learning is where the policy merely copes with changing events. This may be compared with a generative learning policy - whereby the organisation has a policy of creativity - which anticipates future needs, challenges and events, fostering new ways of looking at the world in order to understand how to solve problems.

Senge elaborates and distinguishes between the differences of current reality and vision within the organisation. He calls this phenomenon creative tension, implying that the elasticity of this tension depends on the organisational policy towards creativity. This means that if the policy is towards generative learning then the tension will be less. He implies that creative policies reduce tension and allow for a greater elasticity towards new ideas and changes in practice. Reactive policies, on the other hand, relate to a more adaptive learning policy style of management. An adaptive policy therefore tends to react to events and needs, rather than plan future requirements through proposed practice being creatively anticipated.

This change in organisational practice can be seen as moving from a conventional paradigm practice to a proposed practice paradigm via a paradigm shift ¹³, representing a change of reality through new perceptions and insights gained.

¹²Learning organisations:- applying to all social institutions, not the sole prerogative of the educational management sector, i.e. businesses, local government, societies could all be deemed to be learning organisations.

¹³Kuhn published:-'The Structure of Scientific Revolutions', linking conceptual idea-development to a personal paradigm shift [Kuhn, 1970].

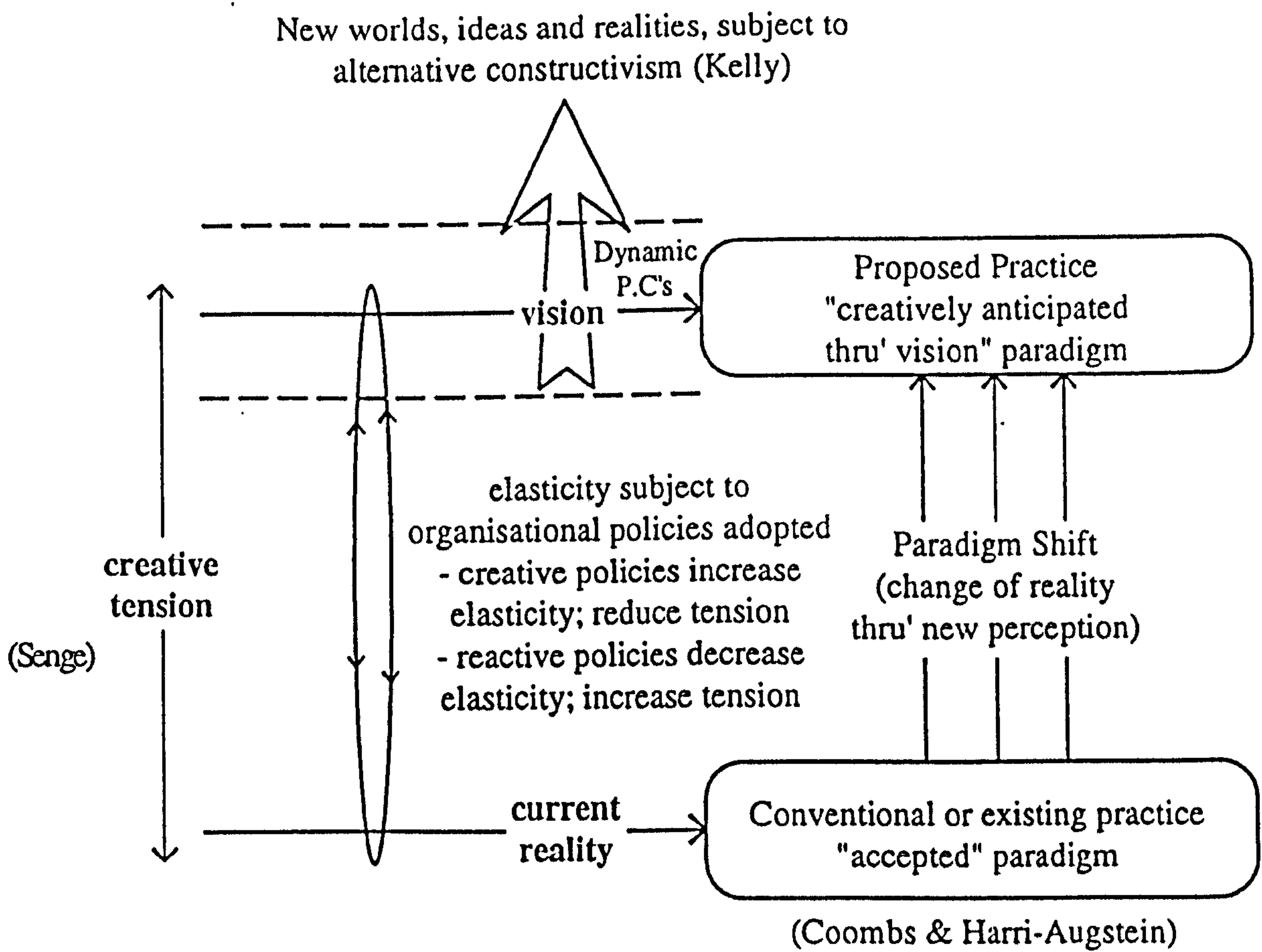


Fig. (1.2)

Relationship between the principles of 'Creative Tension' and 'paradigm shift', when considering 'change-management' policies for learning organisations.

Such paradigm shifts are therefore argued as more likely to happen in organisations with generative learning policies, where change-management anticipatory strategies stand a greater chance of being built into the operational process.

Consequently, my experiences at Mid-Cornwall College (MCC) led me to believe that I was operating in a learning organisation with adaptive management policies. Hence the inelastic creative tensions generated, with consequent lack of any paradigm shift towards new and lasting practices¹⁴ (see fig.(1.2)). This issue has also been explored by Laurie Thomas in a study of personal learning training methods¹⁵ for the Hotel and Catering Industrial Training Board. Thomas argues that the greatest problem of industrial training does not lie in the techniques and methods adopted, but rather in the attitudes and motivation of individuals, businesses and the whole industry. He suggests that, in overcoming the problems of introducing change into the learning organisation, all participants need to take part in the decision-making process and take control over the ways in which change is to be achieved.

The key lesson I had learnt from 1983 to 1990 in my own college, was that most developments had been directed by external pressures and initiatives/incentives to do so (for example, the ESG funding for IT courseware projects).

¹⁴This inelastic creative tension preventing meaningful change is also explained by George Kelly's 'hostility-towards-change' argument. This is related to Kelly's PCT experience corollary - see chapter 3 section 3.1.1; S-O-L is introduced as being linked to Kelly's PCT corollaries - where individuals exhibiting a deep personal resistance to change are seen as defending the status quo. This argument is explored further in chapter 5 section 5.1, where I discuss how this hostility towards change held-up FL workshop developments in my College.

¹⁵ [Banks, Pickard, Snapes & Thomas , 1967]

After these developments occurred, things tended to revert back to normal (i.e. resume prior paradigmatic ways), implying no real shift in organisational practice. Thus I had to take into account this local tendency as part of the challenge of setting up an IT Workshop. Despite these social circumstances of my organisation, I realised the need for new practices that would have to become part of College policy¹⁶ if they were to have lasting significance.

Because of these problems, I had reflected upon the idea of linking the educational progress of the IT Workshop with my own professional career development. The idea of managing change by running a participatory action research project seemed attractive to me. A similar idea had already been tried out by Max Elden¹⁷ from the Institute for Industrial Social Research at Trondheim, Norway, where he implemented a new technology 'work-based' participatory action research project into a bank. Could I do something similar for myself and other colleagues in the IT Workshop?

¹⁶ [FEU-FL opportunities, 1983]

¹⁷ [Elden, 1981]

GENERIC INFORMATION TECHNOLOGY WORKSHOP

What is it?

- It brings together all the generic I.T. educational and commercial resources into one centre.
- Generic means that the workshop will contain resources that are useful to most students throughout the college, independent of their subject specialism.
- The workshop will offer a new kind of educational service to students. It will combine all the advantages of the library service, whilst providing active tutorial support in the area of IT on a permanent basis.

What new activities will such a workshop allow?

- An open-access resource centre professionally staffed for 30 hours per week.
- Free use of IT resources towards the new project areas, serving:-
 - * BTEC PIA's (All subjects and commercial areas)
 - * GCSE's (Any needing the applied use of IT)
 - * A level project work
 - * Its own *in-workshop* flexible IT qualifications

Who will benefit from this provision?

- It will be open to all FT & PT students in the college by means of both ad-hoc and formally booked sessions for each individual.
- It will also be available to 'adults' referred from the open-learning-centre on a negotiated basis.
- Any member of the public and business community that wish to update their IT skills and obtain any of the optional *in-workshop* IT qualifications at any time throughout the academic year.

How does education & training occur?

- Through open-access of valuable resources.
- Through individual use of available resources.
- Through individually negotiated learning portfolios.
- Through counselling of individual students with the imparting of personal learning skills required
- By providing professional *on-stream* consultation; giving students *advice & strategies* for *personal success* in the application of IT inside their unique project work case studies etc.
- Through obtaining any of the IT exam certificates on offer inside the workshop on a flexible learning basis.

What other unique services will a generic IT workshop offer?

- A new complement to the traditional curriculum methods currently employed; thereby, giving variety of experience to the student and enhancing the college learning environment as a whole.
- To provide for an open-shop educational tutorial service in the areas of IT and personal SOL skills.
- To identify and correct certain students lacking essential SOL skills, i.e. to transform those students identified as dependent learners into independent learners; thereby, increasing their suitability for both formal and informal learning environments.
- A hot-line contact point for any member of the public interested in IT and wanting an individual training service i.e. negotiated personal training programme for general IT skills and services leading to available certification if required.

I became interested in the Centre for the Study of Human Learning's philosophy of Self-Organised Learning. From a positive and constructive meeting with my tutor¹⁸ I negotiated and identified my action research proposal. A major objective of my personal action research initiative was to foster institutional change¹⁹ in my own college by involving myself with an officially recognised research programme that would include participation by my colleagues at work.

When I started my research programme in May 1990, with the IT Workshop due to open in September of that year, I was initially concerned that the infrastructure of the venue and its physical and social environment should enable meaningful learning by diverse IT student learners. At the launch in September 1990, I attended a meeting with the college Senior Management Team, including the Chairman of Governors, and submitted a document entitled:-

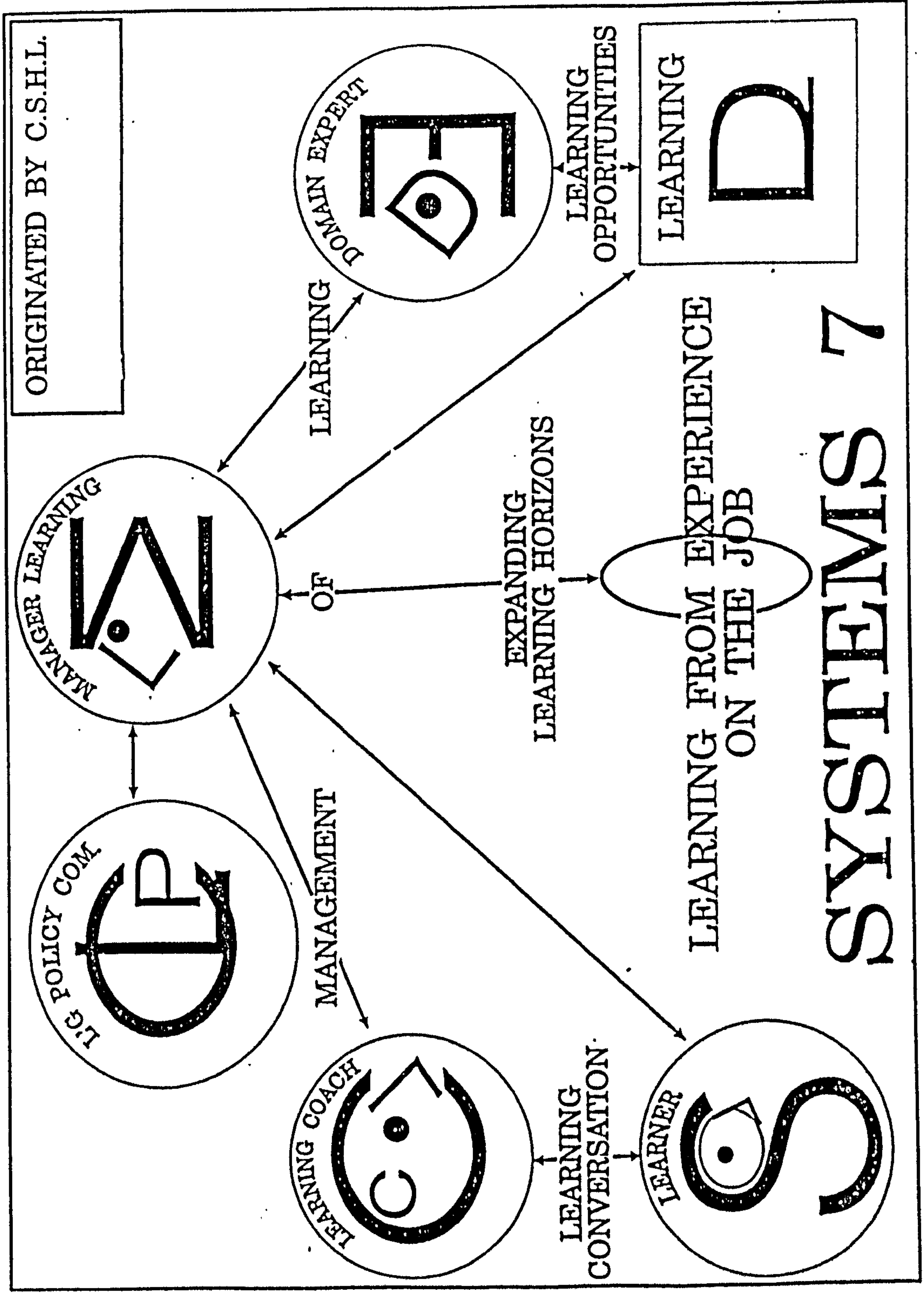
GENERIC INFORMATION TECHNOLOGY WORKSHOP
- see fig.(1.3)

This was designed to raise and answer questions about the purposes of the IT Workshop in relatively simple terms, so as to provide an anticipatory model of how it was intended to operate and fit in as part of the college core FL workshops initiative.

¹⁸It should be noted that I had already contacted dozens of University departments around the UK, none being so welcoming as my initial contact with Dr. Sheila Harri-Augstein and Professor Laurie Thomas at the CSHL. Apart from the pleasant welcome, no other University offered such a flexible policy of integrating one's own working life as part of an action research project. From the outset I would have preferred a centre much nearer to my home and work in Cornwall, but couldn't find anywhere similar to the CSHL.

¹⁹See chapter 3, section 3.2.2:- A SOL action research paradigm as a praxiological experimental method, [Elliot, 1991]

fig. (1.4)



1.3 The search for an organisational management model to develop the 'Management of Learning' policy for delivering Generic IT

When organising FL, the question arises; " how can it be managed in order to maximise the potential learning gain of the individual learner? " The over-arching tenet of FL delivery systems²⁰ is that the student is put at the centre of his/her own learning, thus providing for a Rogerian democratic and person-centred approach²¹. The CSHL philosophy of Self-Organised Learning (S-O-L) also accepts this notion of personal learning, but argues that the learner operates as a conversational individual (C-indi)²².

From this connection between the FL intentions and the SOL philosophy, it seemed both sensible and practical to marry the two in order to search for solutions leading towards a management of learning policy for organisation of IT Workshop resources.

Thus, the CSHL 'Systems-7' management of learning template²³ (see fig.(1.4)) has been considered and used as a conversational blueprint for authoring, identifying and interpreting the learning needs, rôles and purposes of human support systems in the IT Workshop. These identified needs were then organised along FL delivery lines, implying the adoption of a joint SOL/FL strategy for implementing IT educational programmes²⁴ within the IT Workshop.

²⁰Autonomous learning as a process was researched from Occasional Paper 12, published by Davies for the Council for Educational Technology:- 'Towards Autonomy in Learning : process or product?', [Davies-CET, 1987]

²¹A view extolled by Carl Rogers, [Rogers, 1983]

²²See:- 'Self-Organised Learning..', [Harri-Augstein & Thomas, 1985]

²³Exhibit - fig.(1.4) - supplied by CSHL. Full analysis covered in chapter 3, with ideas principally drawn from:- 'Learning Conversations', [Harri-Augstein & Thomas, 1991].

²⁴The rationale behind the adoption of the CSHL 'Systems-7' is covered fully in chapter 3, with the bespoke IT Workshop interpretation - applied to its own unique organisational practice and set of circumstances and needs - in chapter 4.

From this organisational learning management model, myself and colleagues worked out practical solutions related to staffing policy, rôles and purposes to take account of anticipated resource needs. This activity served as a valuable project management process in its own right, relating to ideas underpinning both the 'C.I.R.O.' management evaluation²⁵ approach, and new paradigm social psychology research methods (both are argued more fully in the following chapters).

This initial conversational authoring approach to tackling an action research programme is considered as an essential 'social-needs-determined²⁶' prior experimental activity. Such an approach forms the initial phase of the chronodevelopmental²⁷ action research process, thereby creatively anticipating the new paradigmatic practices proposed for the intended social scenario application field - according to its own real-life context-oriented needs.

²⁵CIRO:- Content-Inputs-Reaction-Outcomes, from which derives the 'Rackham-CIRO' process management evaluation argument [Rackham, 1970], leading on to the more personal/organisational reflective feedback paradigm of the CSHL 'P-S-O-R' interpretation.

²⁶Such a 'social-needs-determined' prior activity will be later argued as a 'socio-gedanken' prior phase of the new paradigmatic social psychology research method. An idea principally drawn from Rom Harré and his philosophical stance of 'social beings'.

²⁷A somewhat ostentatious and ugly term. However, I will be arguing in the next chapter that the social psychology new paradigm research method accepts the notion that action research is subject to the social field 'needs' being investigated and developed. As these needs 'change-over-time' during the unpredictable life-events of the social field being developed, then it is proper to identify this event-time factor. Real-life events occurring over time in a social field are therefore argued by Harré *et al* as social scenarios. Changes to a project's development over time is deemed [Reason, 1981, pp. 319-331] to be a desirable facet of the real-life nature underpinning action research. This recognition accepts the notion that organisational change-management is a key part of the social experimental process. Acknowledging that unconstrained social development will change over time is where the concept of a chronodevelopmental active process derives from, thereby validating this form of human inquiry. The chronodevelopmental approach to 'human inquiry-based' action research is both charted and evaluated using time-lines - see last part of chapter 3 and chapter 4 for time-lines charting the original social learning proposal of the IT Workshop.

This policy of conducting a prior experimental activity using the 'Systems 7' template serves as both a pragmatic and visionary approach towards project management. Such an action research policy is therefore biased towards the investigation and analysis of the specific future needs of a unique social setting, thereby constituting as the rationale underpinning the concept of a social learning proposal.

1.4 Development of Generic IT Flexible Learning modules as SOL plans

1.4.1 Origins of IT as computer literacy

The origins of IT training in FE vocational education can be traced back to the original FEU development work²⁸ in the then newly-defined field of educational computer literacy, perceived as a core or generalised skill, with cross-curricular applications. The microcomputer revolution of the early 1980's provided access to much cheaper hardware at a cost affordable by both the general public and educational institutions alike. This proliferated in the educational arena by initiatives such as the BBC computer literacy project, combining a dedicated machine produced by Acorn Computers plc (referred to as the "BBC micro"), with a bespoke television programme series. This BBC initiative combined with a parallel development, in which schools and colleges received targeted support through central government computer funding initiatives such as the Educational Support Grant programmes. These events thereby creating the synergy and impetus behind the computer literacy curriculum projects and subsequent moves into the field of educational IT applications.

²⁸Educational IT started out life as Computer Literacy, [FEU-Computer Literacy, 1984].

Computer literacy drew its origins from the computer science world and initially concentrated efforts on the use of computers for programming skills, usually in BASIC.

In 1983 I formally registered my college as a City and Guilds exam centre for C+G 953, Computer Literacy, a computing syllabus concentrating on students learning how to programme and code in BASIC, with assessment in the form of an assignment-based programming project. I discovered around this time that while formal lectures disseminating programming skills to science under-graduates at universities may well be tolerated, the general public at large were averse to this academic style of learning delivery²⁹.

1.4.2 A Flexible Learning workshop as a means of delivering IT

Consequently, I found myself naturally adapting my previously more formal delivery teaching style to a more flexible and accommodating approach. This included developing 'hands-on' assignments that could be performed at the individual pace of each learner in a learning workshop situation. This led to myself performing as a floating tutor-consultant, dealing with ad hoc enquiries as they arose, with occasional group discussions.

²⁹In 1983 I was the local examiner in Cornwall for C+G 953 Computer Literacy and consequently ran an evening class session open to all members of the public showing an interest in this newly developed subject area, which concentrated on the development of programming skills in BASIC (Beginners All-purpose Symbolic Instruction Code).

As the 1980's decade progressed, I found myself personally 'tuned-in' to this form of educational delivery³⁰, which concentrated primarily on individual learners' learning capability. All these events acted as influential personal experiences, coming prior to the FL/OL intentions that would affect IT learning in general.

Information Technology as an FE curriculum area came about in the early 1980's, with the FEU definition of IT³¹ as follows:-

"IT is the acquisition, production, transformation, storage and transmission of data by electronic means in forms such as vocal, pictorial, textual or numeric, such as to facilitate the interaction between men and between men and machines. IT also includes the applications and implications (social, economic and cultural) of these processes." (p.1)

It was from considering this FEU definition of IT coupled with my experiences of positive IT - learner interaction in the field for all student targets³², that the wider implications of applying IT to a more general educational learning solution occurred to me. Thus, an early rationale of IT as a general core skill was formulated from my own experiential and developmental learning evidences in the teaching practice field.

³⁰My initial experience of FL was that of individual learners following hands-on activities-based C+G 953 assignments in my college workshop called the 'Microsuite', which had open-plan classrooms, practical resource area and offices. I was 'tuned-in' to this style of education because it proved popular with the learners with consequent reversal of previous drop-out rates and more people progressing to follow-on sessional programmes. The same methods were also successful when applied to school-leaver-type traditional student targets following the same course.

³¹ Taken from the 'Framework for Action' Policy Statement [FEU-IT in FE, 1984]

³²Ranging from those students with special educational needs (SEN) and school leavers with both poor qualifications and personal motivation, through to highly motivated adult learners and foreign students on EFL courses.

I therefore perceived that a general educational IT Workshop could serve as an essential location for student learning. My vision was to forge such a venue in order to provide a curriculum solution to enable personal learning development skills of individual students. This was envisioned as an open-access FL environment, independent of any vocational or subject-based curriculum-delivery bias.

My ideas were stimulated further by the IT concept of a Man-Machine-Interface (MMI) as a personal psychological design consideration³³. This is important when one considers attributes of appropriate computer software design (i.e. personal user communication systems such as screen design, user friendliness of software). From these connected learning experiences arose the question:-

" what affects the learning potential of an individual learner?"

I could not immediately answer this question, but knew from prior experience that IT systems available in an educational workshop-type learning scenario seemed to enhance an individual learner's organisational capabilities.

From this evidence, I could see that personal motivation and experiential relevance were somehow linked to the personal organisation of an individual learner. This formed the basis of my early interest and inquiry into the ideas behind the philosophy of Self Organised Learning.

³³This MMI concept will be later refined into Human Resource Interface (HRI), and Personal Resource Interface (PRI) conversational domains - see chapter 3, section 3.1.2 part 1:- Conversational Processes - Human Learning Interfaces.

1.4.3 Introduction of C+G 7261 IT modules at Mid Cornwall College

All these experiences led me in the direction of becoming an IT tutor, whereupon I actively sought ways and means of expanding my teaching/lecturing commitment towards this goal. My personal interest and motivation towards IT was further enlarged when I registered MCC during 1985 as an IT centre, following the C+G 726 IT modular syllabus³⁴.

The 726 IT modular syllabus encompassed what seemed to me a bewildering range of subject applications, including curriculum areas covering:

- electronics, basic electrical/electronic engineering to radio/TV servicing;
- digital electronic engineering;
- computer science programming skills;
- business studies and office practice etc.

These areas covered curriculum domains that encompassed a wide range of subjects taught traditionally in all four departments of my college. As such, there were inter-departmental disputes over curriculum ownership issues, i.e. could C+G 726 be carved-up into home departments? Worse still, the IT areas of wordprocessing, database and spreadsheet methods were contested by the business studies department as part of their curriculum practice only. This was because they were responsible for typing and office practice modules and deemed these areas (misguidedly) as specific and relevant to those courses only!

³⁴The C+G 726 IT scheme was re-launched in 1990 as C+G 7261 IT, see section 1.4.4 .

I had already been running³⁵ the C+G 726 modules in wordprocessing, database and spreadsheet methods. These modules gained considerable popularity from students independent of subject or vocational specialisation, and rapidly replaced the old computer literacy programming units.

1.4.4 Generic versus specific IT applications

In 1987, while reading for a Post Graduate Diploma in Educational Computing at Exeter University, one of the modules required an investigation into software applications. I chose to look at the core curriculum applications of IT subjects and subsequently differentiated between specific IT application areas and those of generic IT applications. Generic IT was identified by myself as having innate core skills transferable to all curricular programmes, i.e. independent of any one departmental set of needs. This perspective of IT helped to overcome one of the key contemporary debates of the time: whether IT should be centralised or distributed into vocational sections across the college.

It was clear from this perspective that generic IT could be centralised, whilst specific IT learning systems could be distributed into specialist vocational sections across the college (i.e. both solutions correct according to the generic-specific IT context proposed).

³⁵At the time, I was a member of the Liberal Studies department (until 1989, when I was transferred with other IT staff into the Technology department). Whereupon, friction of curriculum ownership of IT courses and modules occurred mainly between the science department (traditionally in charge of computer programming) and business studies department (in charge of office practice courses etc.).

This interpretation of the IT curriculum was confirmed several years later with the publication of the Hopkins report³⁶, investigating management principles for enabling IT practice in colleges.

Hopkins discriminates between generalised and specialist IT skill areas in terms of providing an IT core curriculum programme (the IT core curriculum being based on identifiable generalised IT objectives delivered through the use of college open and FL workshop centres).

Thus, the initial core IT subjects offered as generic IT modules for the IT Workshop with C+G 7261³⁷ assessment recognition were:

- wordprocessing and proof-reading;
- database methods;
- spreadsheet methods;
- desktop publishing.

These modules were developed with an intention to serve all students. Consequently, the learning materials and potential student IT opportunities available required careful attention to the development of flexible delivery and management of learning processes.

³⁶Published by Gordon Hopkins as part of an FEU investigation into the management principles underpinning IT delivery systems in FE, [FEU-Hopkins, 1992].

³⁷The original C+G 726 IT scheme changed to 7261 during 1990, where the four modular levels were rationalised to the NVQ level structure allowing clusters of modules at a particular level to receive additional NVQ certificate/diploma/advanced-diploma accreditation.

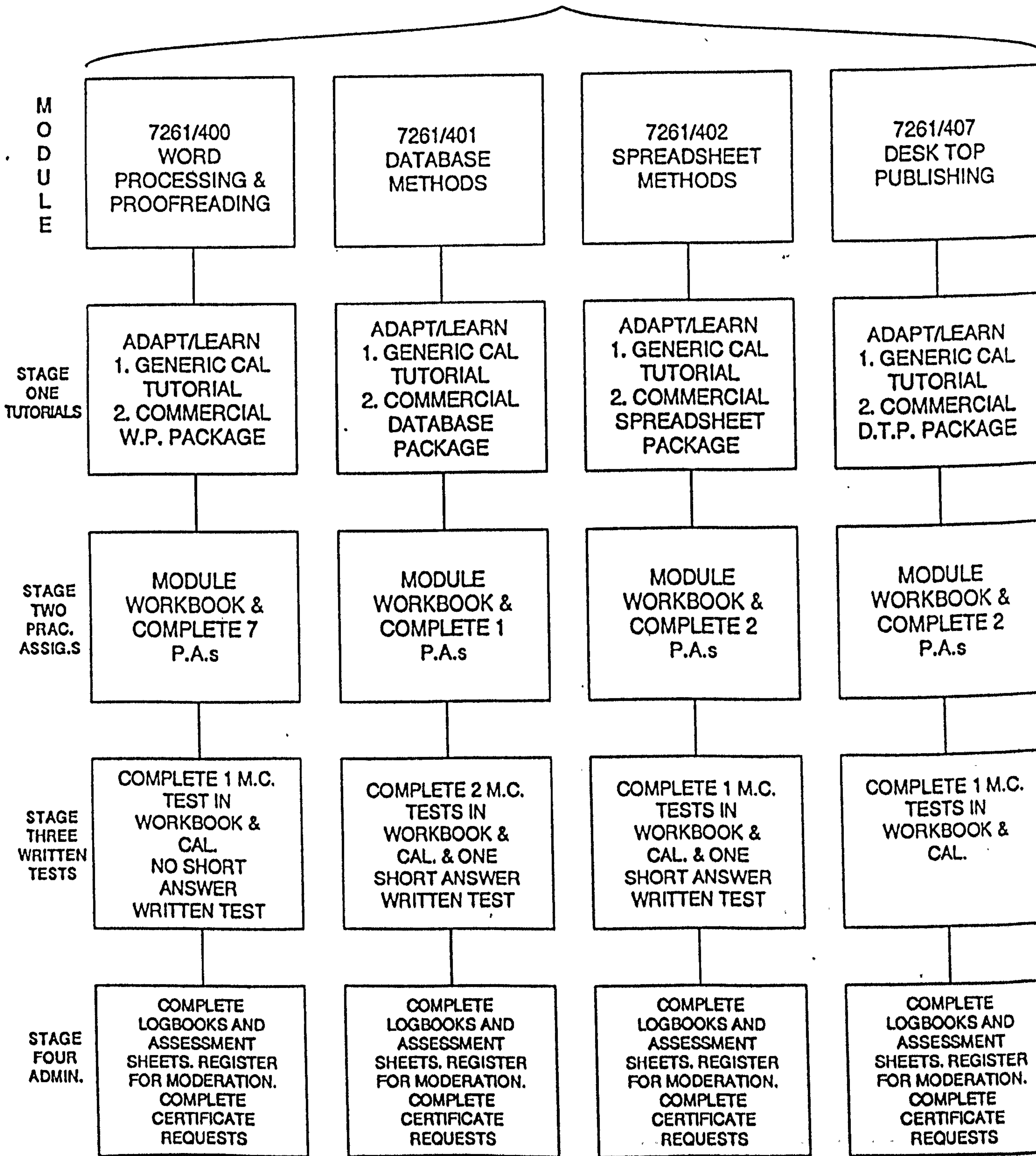
fig. (1.5)

C&G 7261 : INFORMATION TECHNOLOGY UNIT

SCHEME OVERVIEW AND ORGANISATIONAL STRUCTURE

INTRODUCTORY MODULES

GENERIC I.T. MODULES



INFORMATION TECHNOLOGY FLEXIBLE MODULES

CAREER/HIGHER EDUCATION OPPORTUNITIES

The development of I.T. systems in the business community over recent years has been remarkable. This rapid rate of change to I.T. applications means that many firms are actively seeking help and support, so as to provide up-to-date training for their staff.

The ITFM courses offer a flexible approach to acquire specific IT training for your staff/business system needs. We use the City & Guilds 7261 modular scheme as it offers a cost effective solution to your training needs. Each module represents a short course in its own right, for which certification can be obtained. A broad base of I.T. can be tailored for by entering into a range of parallel modules at the same time. Alternatively, a specific area of I.T. can be trained for (e.g. DTP), by following a vertical course of accreditation, i.e., NVQ (National Vocational Qualification) certification in DTP only, at level 1, then levels 2 or 3.

This horizontal and vertical approach to modular selection shows how flexible and versatile the course tailoring can be. Every ITFM student/trainee has their own unique training programme and personal tutor to assist them with their learning programme.

MODULES AVAILABLE

Introductory modules are available for the following areas:-

GENERIC I.T. SYSTEMS:

- Word-processing and proof reading
- Database methods
- Spreadsheets methods
- Desktop publishing

ELECTRONICS & HARDWARE SYSTEMS:

- Electronic Circuits and Components
- Digital Electronics

PROGRAMMING & SYSTEMS ANALYSIS:

- Coding in BASIC
- Coding in PASCAL
- Coding in C/C++

COMMERCIAL SOFTWARE SYSTEMS USED

At the moment our modules employ the following major business software systems including:-

IBM PC familiarisation
DOS systems (Microsoft)
Windows '3' desktop
D-base (Ashton-Tate)
Excel for Windows
Aldus Pagemaker (DTP for Windows)

INDIVIDUAL C&G EXAM MODULES ARE OFFERED FOR:

Wordprocessing & proof-reading	7261/400,420
Desktop Publishing	7261/407,427
Database Methods	7261/401,421
Spreadsheets Methods	7261/402,422
Coding in BASIC	7261/200,220
Coding in PASCAL	7261/203,223
Electronic Circuits & Components	7261/301
Digital Electronics	7261/302

ADDITIONAL INFORMATION

All students/trainees have a personal learning programme to meet their individual needs.

All students/trainees are supported by an I.T. tutor/consultant and have access to an I.T. centre equipped with contemporary I.T. business systems, PC's, laser printers, etc.

The College also provides a consultancy service for industry. One of our specialists can, for example, work with a firm to identify training needs/solutions, as well as advice on hardware and software purchasing decisions.

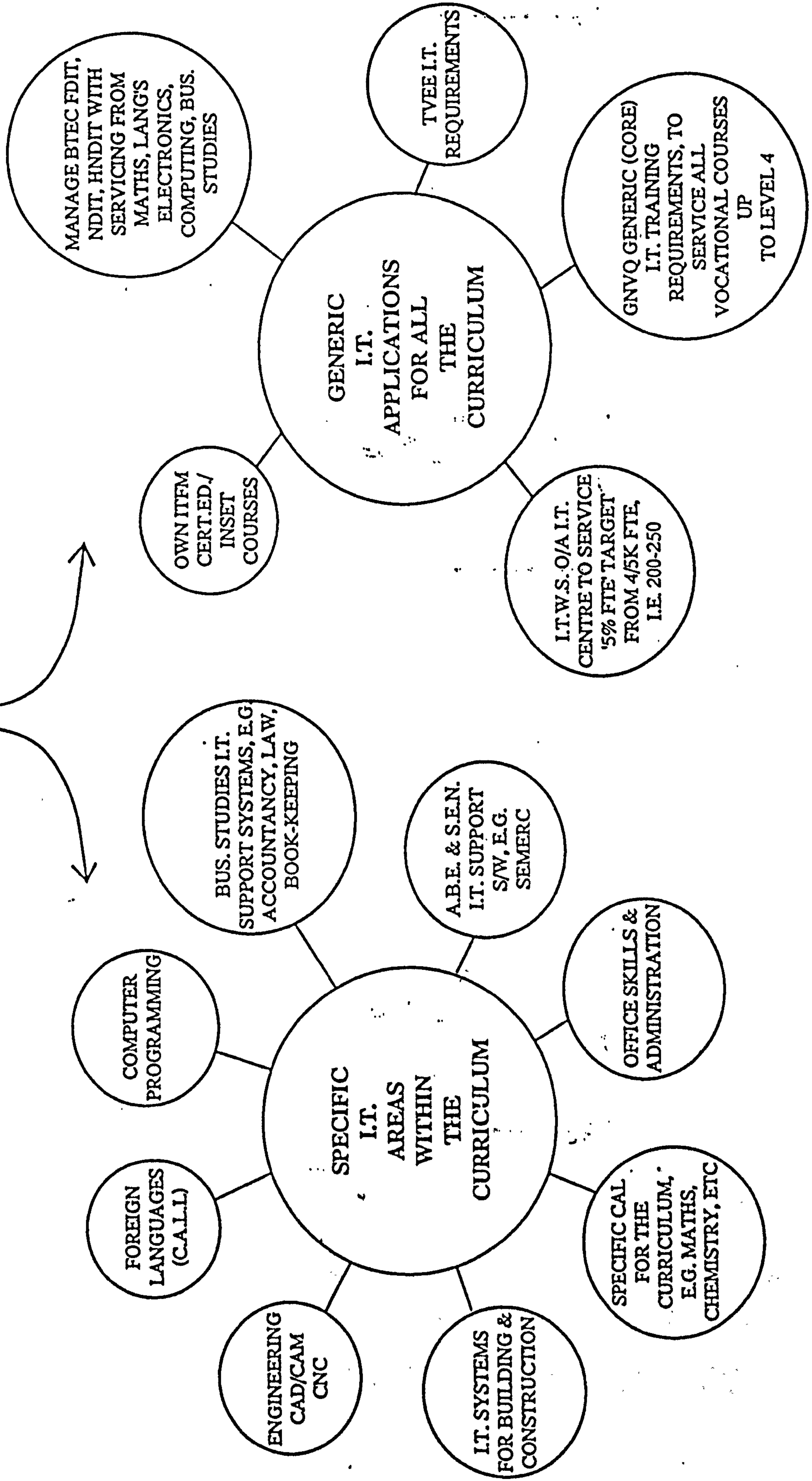
For further information and advice contact:

Beccy Davidson
Flexible Learning Centre Manager
St Austell College
Trevarthian Road
St Austell
PL25 4BU

Tel: 0726 67911 ext 190

fig. (1.7)

WHAT IS THE I.T. CURRICULUM?



Author: S. COOMBS	Date: 25TH SEPT. 92	Ref: EITWS1
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Thus, the core IT skills programmes needed by all student targets across the college could benefit from the C+G 7261 generic IT modular development³⁸ (see fig.(1.5)), while specific IT modules in the areas of programming and electronics could be offered as optional study areas for those students following IT as a vocational course (see fig.(1.6)).

This separation of specific and generic IT curricular skills and purposes avoided and dispelled several confusions and myths about the rôle of IT in the college, culminating in the accepted propositions:

- *that core IT skills were synonymous with the generic IT modular curriculum;*
- *that computer programming was clearly a specific IT area, not to be confused with trying to deliver the core IT curriculum.*

This distinction was later reinforced (see fig.(1.7) generic IT exhibit³⁹) with the reorganisation and amalgamation of colleges⁴⁰ in 1993, after which the new Flexible Learning Centre (FLC) became the base for future core curriculum areas, including IT.

³⁸By developing open-learning generic IT courseware resources, available as individual units in their own right to support open-access core-skills student targets on demand, but also networked and integrated together to create an IT modular learning plan - see fig.(1.5). It must be borne in mind that from 1990 to 1993 I was in the Technology department, with IT development loyalties divided between departmental and cross-college interests.

³⁹Disseminated by myself to MCC management during the transitional re-organisation phase toward the proposed IT policy for St. Austell College.

⁴⁰April 1993 saw not only the incorporation of all post-16 FE colleges in England and Wales, but also a parallel local agreement by the DfE, for the merger of sixth-form and FE colleges in St. Austell.

Consequently, the IT Flexible Modular (ITFM) courses have been integrated into the overall open learning structure, demonstrating the continuance⁴¹ of the IT Workshop within a different operational guise. This has fulfilled one of the key research objectives of incorporating educational changes brought about by the IT Workshop development into the overall college policy and future practice.

1.4.5 Towards SOL managed ITFM learning plans

Given these local context-related needs regarding the curricular nature behind the ITFM⁴² research and development programme, the key educational research purpose was essentially to concentrate field developments⁴³ on the self-organised learning (SOL) modular targets themselves - the intended participant learners. This led to the integration of a SOL management process⁴⁴ built into the design of ITFM courses.

Thus, the SOL Personal Learning Contract⁴⁵ (PLC) management process has been developed as an over-arching learning shell 'template', controlling the IT curricular content relative to the learners' personally negotiated needs.

⁴¹This change of status - regarding the IT Workshop being incorporated into the new FLC - will be covered in the latter chapters covering outcomes and future developments.

⁴²The local context needs were determined as the dual curricular nature of purposes governing the rationale behind ITFM development, i.e. integration of vocational and core IT targets, as well as the need to deliver such a programme via the proposed IT Workshop, acting as a FL social scenario.

⁴³However, all the development areas covered were intrinsically linked to one another via the integrated nature of the overall learning management policy of the IT Workshop, i.e. 'learning plans' defining curricular process, link to the SOL/PLC learning shell by building in reflective self-assessment practices etc.

⁴⁴ [Harri-Augstein & Thomas, 1991, pp. 147-202]

⁴⁵Researched from an article entitled:- 'Learning Contracts and the PLC - a methodology for enabling work-based learners to become more Self-Organised', pp. 143-148. Published as chapter 20 in Stephenson's:- 'Using Learning Contracts in HE', [Harri-Augstein & Thomas, 1993].

This led to practical development solutions of SOL personal management skills (PMS) operating in concert with any IT task-based experiential curricular activity.

1.5 Summary of the experimental activities and conversational evaluations employed

A general consideration of "*what is learning?*" was undertaken by myself and other college colleagues involved in the FL workshops development. From these discussions, the idea of building-in the policies of the reflective practitioner was agreed. As a result I integrated as part of my action research the CSHL MA(R)⁴S and PLC-SOL self-reflective and self-review processes⁴⁶. These were used as learning-shells for the IT modules; serving as independent and content-free processes (content being specific syllabus subject-learning criteria).

1.5.1 Learning plans

This modular learning shell concept led to the development of specific personal learning plans, whereby the generic IT course module learning plan integrated the SOL Personal Learning Contract (PLC) into the FL IT curricular programme, consequently enabling an independent learning-to-learn management process⁴⁷.

These IT learning plans integrated usage of PLC's by both individual flexible attendance learners, as well as those operating in small groups. Consequently, these learning plan - PLC solutions were also developed into a Group Learning Contract (GLC).

⁴⁶See 'Learning Conversations' [Harri-Augstein & Thomas, 1991, pp. 100-136], focusing on the discussion in chapter 3, section 3.1.2.

⁴⁷Researched from Davies:- 'Towards Autonomy in Learning..',[Davies-CET, 1987, pp. 11-13].

The learning plans adopted were continually developed and field-tested - with valuable guidance and assistance from my CSHL tutors - over the action research period of four years. These learning plans integrated the ideas underpinning both FL curriculum delivery with SOL-PLC practice. This practice was implemented into the IT Workshop ITFM programme, enabling autonomous learner-learning reflexive skills for many students that were initially devoid of any SOL capability⁴⁸.

The 'process-of-learning' universal attributes underlying the IT learning plans was subsequently developed into a Universal Design Template (UDT), the UDT serving as a conversational tool from which any FL/SOL curriculum module could be developed. From these developments I was able to experimentally determine an overall policy and methodology for the design attributes governing conversational tools applied to curriculum development - see chapter 5.

The UDT was mainly applied to create a range of ITFM learning plan solutions, covering both generic and specific IT subjects. However, the UDT itself was field-tested in several curriculum areas other than IT. It was thus offered as a Cert. Ed. curriculum development student project, so as to investigate its applicability to other 'non-IT-based' FL curricular areas. One such project used the UDT to author a FL module in the area of window dressing design, an optional C+G extension module offered to second year hairdressing students at MCC (see chapter 5 section 5.5).

⁴⁸Such students being initially assessed on entry into the IT Workshop via exploratory/induction tutorials with assessment of prior learning and achievement coupled to a 'learning attitudes' questionnaire to determine FL/SOL personal suitability. Those found to be severely lacking in such skills are deemed as requiring educational learning-therapy, via tutorials from learning-coach IT Workshop tutors as part of the PLC management of learning policy.

1.5.2 The Self Organised Learner's study kit

As a consequence of integrating PLC's into the ITFM delivery process, a Self-Organised Learner's study kit was developed. This resulted from a number of action research tutorials with my tutor at the CSHL, where key issues affecting the personal learning of students were identified from reflections of my own observations in the IT Workshop:

How does one systematically develop learning awareness and autonomous skills with poorly motivated students?

How can the IT Workshop be organised to enable both SOL and FL learning policy intentions?

The answers to these questions led to the fundamental re-organisation of the IT Workshop and my own job description. Consequently, this caused much friction and antipathy in my own college, as I was led into the realm of challenging the 'status quo mechanisms' that control⁴⁹ teaching practice.

⁴⁹I shall be covering my own learning and personal developments as action researcher - with regards to all these issues - from chapter 4 onwards. It is interesting to note, however, that whilst my college still had an adaptive policy towards learning, it was still possible to make progress towards change owing to the personal support I had from the head of the Technology department. Friction was mainly caused by other staff that were in control of my personal timetable and didn't support the idea of tutoring IT as I had proposed. Instead, they wanted to see me timetabled 'back-in-the-classroom', so that I would be 'doing-the-job' properly. As these colleagues were senior to me I almost 'lost-the-battle' - my action research would have effectively collapsed - and I would have been unable to organise the IT Workshop meaningfully. Fortunately, my head of department supported me in the venture and 'allowed' me to proceed. It is true to say that if I hadn't been doing an 'official' research project, the move towards workshop development would have been held up - yet again - in the college!

Indeed, both Laurie Thomas and Sheila Harri-Augstein recognise the 'disruptive influence' of the self-organised learner at work, from their article published in 'Personnel Management'⁵⁰, where they say:-

" ...the self-organised learner is often resented as a disruptive influence upon the conveyor-belts of education and training".

Having overcome the on-the-job social hurdles - it became possible to integrate the PLC learner management process⁵¹ into the practical development of the Self-Organised Learner's (S-O-Lers) study kit. The SOL study kit developed contained the following:

- **Active log:** for learner task-focused awareness reviewing process;
- **Personal review log:** for learners' learning-focused awareness review;
- **Personal Record:** for recording the negotiated learning agenda of anticipated tasks, including ITFM's and other personal needs;
- **Personal Feedback Questionnaires:** - or PFQ's - PFQ0 & PFQ1, designed to elicit learner awareness of learning attitudes and autonomy of own personal learning plan;
- **End of module evaluation feedback questionnaire:** for a personal record of success/failure, relative to human and physical learning support systems in the IT Workshop.

⁵⁰Published as:- 'The Self-Organised Learner at Work', [Harri-Augstein & Thomas, 1976].

⁵¹See chapter 4, which covers in detail the SOL-PLC management process practically developed and incorporated into the IT Workshop.

The SOL study kit was intended to go hand-in-hand with other course-content modular materials, providing administrative items as personal organisational referents of the IT student's PLC. Thus, a process-management learning shell, independent of - but intrinsically linked into - the IT contents-programme itself. The SOL study kit would thus be employed as a personal management conversational tool to enrich meaningful concepts attributed to IT content by enabling learning-to-learn reflexive skills.

1.5.3 Social learning field evaluations

Evaluations from a sample⁵² of pilot-study IT students were manifested in the form of:

- personal accounts feedback from modular self-evaluation study;
- copies of conversational learning accounts via recorded logs and other IT course-based assessment documentation;
- Initial & Final 'ITFM' questionnaires on learning attitudes;
- in-course 'PLC' feedback questionnaire;

Other evaluations would be obtained - where possible - from IT Workshop participating staff, including:

- conversational case accounts and other feedback regarding the development of the IT Workshop in general;
- key learning evidences and personal interpretations via CSHL repertory grid conversational analysis tools.

⁵²See chapter 6 - Action Research Results and Conversational Evaluations from the IT Workshop Project - for the full 'in-depth' study.

Evaluations from staff and students would assess the IT Workshop development in terms of good and bad practice and any lessons learnt. This provides a form of CSHL 'P-S-O-R' conversational feedback⁵³, as a means of on-going change-management policy.

My own evaluations as action researcher have been recorded - through self-learning conversations - throughout the period via my own biographical log. This account of personal learning and reflection has been usefully employed during tutorials with my tutor at the CSHL and will be evaluated using a 'time-line' event map (see 3.2.2).

Consequently, key questions and issues related to my action research have been conversationally raised and explored, which in itself has been a personal learning experience that has benefited me. These personally logged experiences are referred to as a major part of my feedback and findings for this thesis, and therefore constitute my own developmental learning-gain.

⁵³See 'Learning Conversations', [Harri-Augstein & Thomas, 1991, pp. 153-158].

CHAPTER 2 : The Action Research Theoretical Framework

2.1 Rationale and relevance of areas to be investigated

Chapter 1 introduced the rationale behind linking the development of the IT Workshop to a programme of self-organised learning. Initial investigations coupled with a feasibility study of requirements were carried out, from which a set of key local needs have been identified and summarised in the following section.

2.1.1 Summary of the IT Workshop's project needs

- To link my own personal development through creating an IT Workshop at Mid-Cornwall College (MCC) as part of an action research project with the CSHL at Brunel University.
- To create lasting institutional change-management at MCC towards a new paradigm of delivering FL, underpinned by SOL practices.
- To convert existing separately taught IT courses/modules into student-autonomous ITFM's, so that integrated student targets from diverse social backgrounds can co-exist in the IT Workshop - obtaining official C+G IT qualifications - following their own personal learning plans.
- To set up a systems-based management of learning organisational structure for the IT Workshop, whereby staff and students can all be involved in meaningful Learning Conversations. It is hoped that from out of this action research initiative an ideal FL practitioner team may evolve for future SOL-type practice beyond completion of the project.

2.1.2 Problems of implementing Flexible Learning at the College

One reason for introducing in chapter 1 the IT and FL developments in my college was to set the scene and indicate the social context in which I have been operating. Within this context there was an introductory discussion regarding the problems of attempting to implement FL delivery systems within the conventional learning (CL) institutionally accepted structures already in place. This was then related to creative tension and an adaptive policy towards change management, resulting in institutional difficulties towards moving away from existing CL practice. In such a resistive climate towards change, it was necessary to develop the IT Workshop initiative with the outside support of an enabling-agency. I then proceeded to investigate a management of learning policy encompassing FL delivery practice. To implement such a policy, I needed to gain the internal college support of my line managers and that of an external educational institution capable of steering action research in this field.

From my own perspective as both IT Workshop manager and action researcher, this project has been particularly meaningful to me as I had already spent more than a decade of my life in the further education field. For the whole of that period I had sought to understand and adapt my IT teaching rôle towards ever-changing educational circumstances.

At the same time, I had also been seeking to improve my own personal learning resources and capabilities for the mutual benefit of colleagues and students - as well as myself. As such, I have been involved with field experimentation of ideas related to human learning, usually coupled with curriculum development initiatives in FE such as IT, Open Learning, Flexible Learning and the Certificate for Pre-Vocational Education. Consequently, I have learnt to share the views of educationalists such as Lawrence Stenhouse¹, who support the idea of every teacher as experimenter with his/her implementation of curriculum.

It was through my own learning experiences - and those shared with colleagues - that I discovered the importance of student-centred activity-based learning. This became an essential educational policy issue, from which I could envisage FL being both managed and delivered via educationally-resourced workshops.

The curriculum in my institution - unfortunately - is largely delivered in a traditional manner according to a conventional learning (CL) paradigm that timetables teachers into classrooms, lecture theatres, laboratories etc., for fixed formally delivered sessions. To deliver the IT curriculum via a new flexible learning (FL) paradigm, therefore required not only my own personal development, but wider institutional change. That required a change of management policy as regards the 'practice-based-issues' affecting organisational resourcing and staffing.

¹Stenhouse from his book 'An introduction to curriculum research and development' provides in chapter 7 a definition of curriculum from the personal experimental perspective of the teacher implementing it:- "A curriculum is an attempt to communicate the essential principles and features of an educational proposal in such a form that it is open to critical scrutiny and capable of effective translation into practice." [Stenhouse, 1975]

Hence, for all the reasons so far argued, it seemed appropriate to link my proposed development to external sources. As I was concerned with how to enable students to learn more effectively in a FL environment, it was logical to link the development of the IT Workshop to human learning in general via an action research programme. The Centre for the Study of Human Learning (CSHL) with its philosophy of Self Organised Learning (SOL) and an action research approach - based in the social learning field - seemed suited to my practical developmental needs, as I have already acknowledged in chapter 1.

In section 1.3 I discussed the search for an organisational management model, from which to develop the management of learning policy for educational delivery of generic IT. A general discussion on the development of the CSHL 'Systems-7' S-O-L Management of Learning template was introduced by myself in order to identify staff organisational rôles in the IT Workshop. This management policy of the IT Workshop operating as a social learning scenario was underpinned by learning opportunities in the form of IT-related personal learning plans. These were developed as IT Flexible Modular (ITFM) programmes integrated into the SOL common-skills learning shell of the CSHL Personal Learning Contract (PLC).

I also introduced the historical context behind the development of generic IT FL modules in my college. These original IT FL modules were destined to become transformed into the fully integrated ITFM course structure², leading to the ultimate development of curricular learning plans as combined PLCs and GLCs via a SOL study kit.

2.1.3 Action research to explore how the new paradigm social psychology experimental approach integrates with the S-O-L conversational paradigm

In this section I shall briefly introduce some of the arguments underlying the new paradigm social psychology experimental approach. The intention is to show how action research can be seen within a social psychology paradigm and how this integrates into an S-O-L conversational person-based paradigm approach. This whole area is more fully elaborated in chapter 3, section 3.2, where the themes explored cover the influences of new paradigm social psychology and its relationship to action research. The best practice identified from the new paradigm social psychology approach is then integrated into a praxiological SOL-based experimental methodology from which action research may be conducted.

S-O-L defines³ action research as:-

" ... a Conversational Scientist personally involved in researching their own meaning construction process. "

²IT flexible modules (ITFM's) were developed, integrating the concepts and ideas of PLC's, SOL based Learning Plans and an external City + Guilds 7261 IT modular curriculum, NVQ assessed up to level 4. See Chapters 4 & 5 for a greater in depth analysis of the practical development of PLC's, ITFM's and SOL based Learning Plans.

³Taken from 'Learning Conversations', [Harri-Augstein & Thomas, 1991, p.60]

The action research is therefore conducted by a Conversational Scientist - closely linked to the Kellyan Personal Scientist model adopted by Personal Construct Theory - operating as a Conversational individual (or C-indi). Thus, the action researcher operating within the S-O-L paradigm performs as a conversational learner, manifesting on-the-job as an iterative 'bootstrapping' reflective process. The S-O-L action research approach promotes:-

- self-organisation;
- personal empowerment;
- organisational learning;
- continuous learning - both on-the-job and in personal life.

These principal objectives are achieved through enhancing⁴ the individual's 'Capacity-to-Learn'. The SOL approach towards action research has been compared in this thesis with the new paradigm social psychology interpretation, which perceives the action researcher as operating in a culture of learning through real-life social experiences (see the table comparing both paradigms illustrated in fig.(3.10), chapter 3). However, whilst both paradigms are fundamentally distinct, many of the underpinning ideas share a common theme and approach towards conducting action research. These themes are both contrasted and compared in chapter 3, leading up to the analysis disseminated in fig.(3.10). The resultant SOL action research paradigm adopted for this project is then explained in section 3.2.2.

⁴Taken from 'Learning Conversations', [Harri-Augstein & Thomas, 1991, pp. 46-50]

Both paradigms have in common the rôle and responsibility of the action researcher operating within their own social context, whether this is described in terms of a S-O-L 'Systems 7' learning environment or 'new paradigm' real-life social setting.

The 'social context' of my action research is the IT Workshop development in my own College. It is useful to introduce briefly the new paradigm 'social psychology' approach, to reformulate the fundamental objectives of this action research project within the social learning parameters of the IT Workshop learning environment. The new paradigm approach towards human inquiry allows me to define the development relative to its own social context needs as follows:-

I do not have to prove some unique and timeless theory. My key intention - instead - is the on-going development of an educational workshop. The proposed social practice intends to flexibly deliver an IT learner-led curriculum, while enabling a SOL Personal Management System as a core educational process. If the development created can become perceived as a meaningful and desirable practice by the learning organisation itself, then its continuance should become a matter of fact. Incorporation into organisational learning policy of any changes to FL and IT practice developed as a consequence of this project, will be considered as meaningful by me and regarded as a success.

This *social manifesto* approach to research is supported by Rom Harré. In his article⁵ in the *Psychologist* entitled 'Reappraising Social Psychology, Rules, Rôles and Rhetoric', Harré argues against the traditional paradigmatic approach of standard experiments with variables and numerical results.

⁵ [Harré, Jan.-1993]

Instead, Harré argues in favour of a new approach he calls new paradigm ethogenics. He suggests that researchers should...

" develop methodologies commensurate with the nature of the phenomenon they are studying."

He also writes about the desirable qualities of integrating social psychology into action research, arguing that it is legitimate for the action researcher to be part of the team⁶ rather than operating in the more usual isolated - and hence detached - reporter rôle and function. Harré further argues for a more 'deep' and reflective metaphysical approach to research, citing a more Gedanken⁷ styled methodology towards steering social change.

These arguments, coupled with Harré's idea of relating context to understanding 'social episodes' in 'real-life scenarios' through the evidence of personal accounts - discursively obtained and rationalised - provides an alternative research agenda compared with the more traditional physical science paradigm approach. This alternative agenda supports my personally involved on-the-job and developing-over-time orientation towards this action research project.

⁶The researcher operating on the basis of *social parity* and 'equanimity' with the other human partners involved in the action research programme - see chapter 3, section 3.2.1, Harré & Rogers.

⁷Gedanken refers to the famous 'thought-based' experiments, as a prior metaphysical investigation e.g. Einstein's theory of relativity was gedanken conceived prior to any experimental evidence. Thus, the concept of *proposing social change* through some focused real-life project could be argued as a *socio-gedanken* experiment to be put to the test in the *social field* of life.

This 'personal scientist' agenda legitimises myself as action researcher operating from within - and collecting data from - a real-life social setting. Such an approach is also supported by SOL, where the action researcher acts as a Conversational Scientist recording qualitative 'data' as items of real-life experience. This is achieved through the use of conversational learning tools, such as reflective accounts and on-the-job team-building learning processes, i.e. use of repertory grids as a staff development tool towards managing the Learning Conversation.

Sections 2.1.1 to 2.1.3 are a prelude to the main literary review of sources. They have provided a useful summary of the rationale and relevance of the key social area needs to be adopted as part of the action research process. These social setting - or IT Workshop - 'needs' affect the overall direction and underpinning purposes of the action research project. The theoretical framework investigated as part of this study therefore needs to reflect and underpin these action research social requirements of the IT Workshop under the auspices of a S-O-L 'Systems 7' development. Consequently, it is important to carry out an early investigation into the theoretical frameworks reviewed and adopted as underpinning theory and/or hypothesis. This exercise in itself constitutes a fundamental phase of my overall action research development. The review of the literature will identify the arguments to be made to support the rationale of any practical proposals implemented.

In summary, I shall be investigating literature in the rest of this chapter and chapter 3 covering the following domains as key fields of interest:

- Further Education and associated applied research;
- Self Organised Learning and Learning Conversations;
- new paradigm approaches to social psychology research and how it integrates into a 'SOL-based' action research agenda.

Each of these domains will be explored relative to a set of sub-themes. These sub-themes represent key design issues, on which the premises and assumptions of the action research are based.

My review of selected literature and contemporary sources will therefore attempt to identify a set of foci related to the above areas of interest, whereby, inter-connections and arguments in support of my own research thesis may be developed and expanded upon.

2.2 Key fields of investigation : Further Education and Applied Research Issues

2.2.1 Contemporary aims & purposes of FE

My experience of the world of FE for the last decade has involved much change. There are many documented sources providing clues towards a rationale behind these changes. These sources originate mainly from bodies such as the Further Education research Unit (FEU) and government training agencies and departments. I will survey some of these documents to show the connections between developments such as Open Learning (OL), Flexible Learning (FL), Information Technology (IT) and Accreditation of Prior Learning

(APL). From this understanding of FE initiatives, we can see how they have influenced the organisation of the IT Workshop.

My initial task, however, is to illustrate the agenda of FE in general, in terms of present and future educational purposes.

The key aims of FE⁸ for the remainder of the 1990's can be summarised as:

- to increase the level of participation;
- to increase the level of attainment of those participating;
- to improve the quality of this attainment in terms of breadth and applicability.

Underpinning these key learner-oriented aims are FE quality objectives, namely that learning opportunities should be:

- designed to tailor clients purposes;
- relevant (to both individual and society's needs);
- cost - effective.

Issues affecting these aims and objectives are identified as:

- type of learning opportunities;
- qualifications available;
- access and progression.

⁸The Learning Resource Development Group (LRDG) is an influential FE policy steering group. Whereupon, it held a series of policy-forming seminars in 1992, culminating in the 'Creative Chaos?' publication [LRDG, 1992]. This pre-empted many of the policy issues regarding NVQ's/GNVQ's and funding/quality arrangements that have since underpinned the FEFC management of learning funding model.

These are all seen in the context of providing a twin-stream qualifications system, where academic courses such as A Levels are paralleled by vocational course equivalents in the form of NVQs to degree level⁹.

The issue of change-management is addressed in the Learning Resource Development Group's (LRDG's) article, which discusses how to maintain quality during the process of change. It identifies the key purpose as better learning opportunities, with staff development, curriculum development (including assessment) and institutional development (including resourcing) as the three features underpinning any changes. The conclusion made by the LRDG is that planning is the key to change-management in FE.

As if to underline this concept of planning, the Further Education Funding Council (FEFC) published¹⁰ in December 1992 its report 'Funding for Learning'. This provided FE colleges with a set of plans on how to qualify for future funding. This was done according to a new set of criteria and arrangements intended for implementation after corporation day on 1 April 1993. The basic tenet of the FEFC was 'to promote learning by students'. An analysis of the learning process to be experienced by all future student targets was described in three discrete stages:

Entry ⇒ On programme ⇒ Exit

⁹Latterly the NVQ route for post 16 education in FE has been modified to include vocational A-levels in the form of GNVQs (NVQs with core skills), whilst NVQs operate in parallel as full and part time course opportunities for all FE student target groups i.e. foundation and life-long adult learners.

¹⁰The FEFC is a new government 'funding' body, set-up to oversee the 'incorporation' of the FE sector and its subsequent financial management [FEFC, 1992]

An emphasis on delivering learning via more tutorials and use of learning resource centres was extolled. Introduction of new assessment, recording and review procedures was encouraged, in order that flexible learning programmes implemented were capable of on-stream re-negotiation by learners. The overall aim was to reduce drop-out rates of learners from colleges. Funding would be linked to the above three learning phases and coupled to all colleges ultimately meeting National Performance Targets of NVQs. These targets were to be related to both foundation and life-long¹¹ learners: i.e. fixed percentage success rates of 'normative' population samples e.g. 50% of all foundation learners to attain NVQ level 3 (or its GNVQ academic equivalent) by the year 2000¹² etc.

Many of these reforms had already been anticipated and realised through my IT Workshop development three years prior to their announcement. I had already devised systems-solutions and strategies in order to move from a CL to FL delivery paradigm. This was done in spite of the inherent institutional cultural difficulties of doing so. While the overall tenet of the FEFC funding of learning policy is positive towards FL delivery systems, there are a number of criticisms to be made. The key weakness of the FEFC plan is that it is only a plan¹³ and does not address the difficulties of *how* to change institutional cultural practices - other than the threat of financial funding penalties. There are no worked examples of how to carry out these changes relative to existing teaching practice. There

¹¹The FEFC defines student targets as 'foundation' relative to the traditional 16 - 19 year old school-leavers, and 'life-long' to those 19+ mature or adult learners.

¹²Gleaned by the FEFC from the CBI report " World Class Targets ", July 1991.

¹³The FEFC 'plan' represents a structural funding mechanism relative to its own sponsored view of essential key design components, constituting 'ideal' learning delivery solutions to be found in the model FE institution.

also seems to be confusion between tutorial student support services - supposedly on-stream - and enlarged class sizes to accommodate an increasing student population. No commensurate increase in support staff funding has been allowed for to enable these 'new' services.

Despite these many challenges for FE, I accept the previously stated criteria for aims and quality and intend to build them into the on-going development of the IT Workshop. This will be done as part of the FE context-related needs axiom of the proposed learning management policy. I'll therefore have to fit my SOL aspirations for learners relative to the FL/IT funding opportunities proscribed by agencies such as the FEFC. Ultimately this will affect the level of overall resourcing allocation that can be made to the IT Workshop and needs to be taken into account.

2.2.2 Mixed learner targets: Social Interaction considerations for transitional group learners working in an open-systems FL environment

Another socio-educational aspiration for considering open and flexible learning centres are the potential benefits to be accrued by the very nature of diversified learner groups and individuals working together. Open-Access FL centres such as the IT Workshop involve the mixing-up and interaction of learners from many different target groups into one large transitional work-group. There is no doubt - from my own empirical observations as a practising teacher - that large gatherings of persons into flexible and open learning centres give an ill-defined and unquantifiable social 'value-add' not to be found in CL delivery systems.

I would therefore like to explore some of the theoretical ideas underpinning these truths of personal experience. From this study I would like to find out the underlying social rationale in mixing large groups of learners. From this understanding I hope to be able to steer the IT Workshop development more meaningfully.

The question I have reflected¹⁴ upon was this:

What are the underlying social considerations to be accounted for - in any learning management policy - towards the organisational support of large groups of transitional learners in an 'open-systems' environment?

This dynamic social context has been considered by John Bazalgette¹⁵ of 'The Grubb Institute' at South Thames College in his FEU project 'Leadership in Learning - The reflexive learning of a staff group in FE', where he considers the impact of the changing context as:-

"Just as no man is an isolate, no institution is isolated either. It exists within and is influenced by its context. Its activities and purposes can be interpreted with reference to its context. As the context changes so the activities change, especially those activities which are about the institution's continued survival. This model, which is essentially a biological or open systems model, is as true of educational institutions as of other social institutions. What they are for and who does what in them are all questions which can be explored by considering how they relate to the surrounding environment. To do this one takes into account the boundedness of the institution and considers the nature of the transactions across its boundary." (p.17 - paragraph 1.1)

¹⁴This question arose from a tutorial I had with my tutor Sheila Harri-Augstein. Whereupon the idea of *transitional groups of learners* individually following PLCs in the same OL venue was explored. It was considered that mutual and co-operative learning between learners might constitute as a form of Group Learning Contract or GLC. It is from this premise that the subsequent investigation of social interaction relative to open-systems learning environments began.

¹⁵ [FEU-Leadership in learning, 1981]

This stimulated me to enquire into what my social context actually was relative to my own socially proposed IT Workshop learning scenario. I then considered the nature of my socially-mixed learners and wondered about the social group dynamics of such an educational venue.

This led me to consider the somewhat daunting domain of 'Group Theory' and social interaction. I realised at this point that transactions across my traditional professional boundary of education would be necessary (as suggested by Bazalgette), and decided to investigate how group theory affected the practical field of social work. Social work has similar 'educational' needs towards the understanding of how social interaction between clients and group leaders affects and influences human learning.

Fortunately¹⁶, my search revealed 'Group Theory for Social Workers - An Introduction' by Ken Heap¹⁷, which 'filled-in' a lot of holes that I wasn't aware of from my investigation of educational sources. One of the most important revelations was Ken Heap's understanding of the professional barriers between the education and social work professions.

¹⁶Fortunate, because I am married to someone who is professionally qualified and experienced in both the field of social work and education, providing me with *conversational* comparisons.

¹⁷ [Heap, 1978]

Whereupon - ironically - he draws a valuable connection between group work practice and experiential learning:

"In most areas of learning, doing rather than talking has pedagogic value, which many social workers have been slow both to recognise and to act upon. This is perhaps partly because the role of learning and the possible relevance of learning theory have, until recently, been given scant attention in the literature. This reluctance to integrate learning theory and social work practice may be caused partly by anxiety about apparent intrusion into the terrain of yet another profession, namely teaching. However... , group work practice has for many years fostered experiential learning as a major means of treatment." (p.124)

This social work relative to teaching perspective is reversible, i.e. if learning theory has not been fully considered relative to social work practice; then - undoubtedly for me - social work practice has not been fully considered and integrated into the field of teaching.

This suggests that group work can be organised in such a way that - through meaningful experiential learning activities - a form of individual social therapy might also be gained. This implies that the social group-orientations and interactions within the organised learning scenario need to be considered from a group theory axiom.

Ken Heap also recognises that some group theory occurs naturally by default and understands the reticence of 'would-be' practitioners to get involved with it:

"Some group theory is generated by intuitive and sensitive observation of life situations. It (group theory) seems so far removed from the urgent realities and crises with which they (professional practitioners as group leaders/facilitators) must daily deal in the groups they serve. We have entered a field where the social workers and others in clinical and educational practice have available an increasing and valuable aid to group work in their various (social) fields." (p.1)

Hence I will reflect upon the various group theory categories and socially-based organisational requirements. This will be argued relative to 'open-group' social systems that enable task-based learning. Links will then be made to establish how this might lead to the improvement of an individual's Personal Management System (PMS).

It will then be argued that by building-in such social group systems - as part of the IT Workshop learning management policy - new social-interaction opportunities for group-based individual learning can take place. This will then be related to SOL-PLCs, from which an argument regarding 'what constitutes a Group Learning Contract?' will be made.

① The social work 'practice-team' approach to staff groups

Heap argues that the contribution of staff groups 'bound by hierarchical institutions' is difficult, owing to problems of status and communications between different levels in the organisation¹⁸. The solution therefore requires a flexible systems approach:

"The extent to which a social worker in such a setting (hierarchical institution) is able to serve the interests of the clients effectively is therefore determined by the flexibility of the system. Such hierarchies contrast somewhat with another kind of staff group, namely the 'team'. The team approach has become increasingly common during the past two decades, particularly in psychiatry, family counselling, rehabilitation and more recently in social planning. While teams must also have some kind of formal organisation in order to function, they are based on a more egalitarian philosophy. The team principle assumes the equal value and authority of all relevant contributions, and encourages joint participation in problem solving". (p.12)

Within this open and flexible practitioner-team approach, staff are considered to be equal partners actively working together with their groups. In such a team-based scenario staff contribute specialist knowledge and competence, but share common skills and functions across groups. This would seem a sensible model for tutors managing flexible case-loads of transitional learners in the IT Workshop, which operates as both an open-access and flexible learning centre.

¹⁸Carl Rogers [Rogers, 1983, p.249] also argues against hierarchical management systems, citing an example where personal status and control over others over-rode the normal profit-oriented 'bottom-line' in an experimental factory. Where worker co-operation was instigated as a means of increasing personal freedom and autonomy, resulting in increased business responsibility. These successful co-operatives were, however, discontinued owing to a lack of traditional line-management control, and returned back to conventional hierarchical systems.

Mixed targets of learners attend the IT Workshop, operating as a loosely federated ITFM group of both smaller sub-groups and individuals.

② Open, closed, primary and secondary groups

Group theory classifies groups with an open and dynamically changing membership as an open-group system. This can be compared with a fixed membership group which is defined as being a closed-group system.

Primary Groups are defined as those where contact is formed through social familiarity - i.e. face-to-face contact by members with sufficient time for relationships to form and be fostered, e.g. through continuing peer groups. Secondary Groups, however, are larger and looser organisations, where there is a degree of identification with each other through some common purpose of membership. Thus, similar interests form as a common bond, but the members do not necessarily meet each other for social contact.

Hence, the IT Workshop with potential membership throughout the college has around 200 to 300 regular members operating as a transitory secondary group, from which smaller primary sub-groups are formed both formally and informally, according to the social mix present.

③ Small and voluntary group formations

These are differentiated as psyche-groups (Ψ -groups), in which members informally cluster in order to gratify mutual emotional needs. Socio-groups exist where the group is more formally constituted in a heterogeneous manner. This usually occurs for the purpose of members coming together in order to pursue explicit goals and common tasks (to be referred in future as task or T-groups).

The success of both group formations is determined by the enjoyment or 'feel-good' factor of the psyche-group and the effectiveness of the socio-group. In real-life situations Heap notes that:-

"Most groups will demonstrate both psyche and socio attributes. ... In a group which is predominantly psyche-orientated, the socio-dimension is also necessary to give some direction and stability, and perhaps to provide a framework enabling the psyche dimension to flourish and enrich the group members. Conversely, a group which is mainly characterised by socio-attributes usually needs the psyche dimension in order that relationships may develop together with an emotional atmosphere favourable to co-operation in completion of the task." (p.23)

This leads to the argument for establishing common purpose goals through sharing and negotiation of task-oriented learning plans, so as to enable group bonding. That implies the need to develop socially a learning scenario that enables a parallel sense of both personal and group identity impetus towards the common task-oriented goal.

Thus, primary sub-groups based on common task relationships (i.e. T-groups¹⁹) can be created within the overall secondary group membership structure. This provides a rationale towards another group theory concept, that of 'Group Formation', which seeks to identify the underlying purposes of groups coming into being.

This links to the idea of individual learners - operating according to their own formally negotiated PLC²⁰ - creating an informal GLC through the opportunity of self-elected negotiation into an openly federated number of circumstantially available T-groups. These T-groups operate as 'self-help' primary socio-groups within the overall secondary group structure based in the centre.

This self-election and opportunistic process is identified as a voluntary group formation, which operates according to an active 'needs-driven' membership approach. This is particularly suited to the open and flexible group opportunities available in the IT Workshop/FL environment, where learners' attendance relative to each other is 'transitory' according to their own personal learning plan and timetable.

¹⁹Task groups are also supported as an efficient working practice by Charles Margerison [Margerison, 1982]. In his book 'Influencing Organisational Change', he illustrates how this idea has been incorporated into Swedish industries such as Volvo, so as to introduce a flexible and socially efficient working practice based on autonomous work groups.

²⁰For personal and group learning contracts (PLCs and GLCs), see chapters 4 and 5 for an in-depth analysis relative to this action research development.

Voluntary group formations can be seen as a subtle tactic to motivate people towards a common task. Heap argues:-

"Even in groups which are initially formed in a voluntary and democratic manner, and which meet the motivation of members at the time of formation, the worker may later in subtle ways compel and manipulate." (p.34)

Thus, a socio-educational group theory policy, operating as a covert form of social management-control to enable group motivation relative to some task.

④ Interaction and group communication processes

The practical social-outcomes of any group will be determined and affected by the social interactions of its members. Social interaction is a complex process, but is defined by Ken Heap as a function of mutual exposure, group size, relationships and activity.

Social activity - This is seen as purposeful; as activity generally:

- promotes a sense of achievement;
- sublimates and canalises certain impulses;
- actualises problems in an on-going situation;
- stimulates interaction between self and others.

Activity is seen as a secondary focus of interaction, acting as a permissible distraction through which insecure and inarticulate people can approach one another.

This implies that individuals actively involved in IT exercises using their personal computer tool as a secondary interaction focus can - through suitable opportunities - conduct Learning Conversations²¹ with other primary or secondary group members present. These subsequent Learning Conversations constitute a primary interaction focus. This conversational opportunity operates as a fundamental freedom to choose, from interaction 'sources' present in either the wider secondary group or an identified T-group.

Such a choice can be interpreted as a freedom to associate or disassociate with others. An individual working alone expresses the freedom to disassociate - choosing to work in isolation - whereas personally motivated association with others expresses the freedom to interact socially. Underpinning this freedom of associative interaction with others is the social opportunity and personal need to do so. In a carefully constructed open group learning scenario these opportunities and interaction 'freedoms' can be further enhanced. This can be achieved by providing the learner with greater choice and possibilities of available interaction sources. Therefore the diverse centre-resident social-mix of learners available in the IT Workshop becomes an acknowledged learning resource in its own right.

²¹Thus, an indirect and anti-threatening mode of enabling Learning Conversations in socio-groups with an IT task focused activity, i.e. an IT T-group. Thus, overtly the IT task is met whilst developing the self-organised learning capabilities of the individual learner via therapeutic peer-to-peer social interaction in the form of a Learning Conversation. Peers constructively interacting with other peers in order to enable the mutual learning process are regarded as peer-tutors, constituting informal T-group and Ψ-group association dyads. In the IT workshop/FL development, such peer-tutors are regarded as part of the practitioner team and are enabled via a positive discrimination policy. This policy awards two - externally sponsored - annual prizes to both foundation and life-long student learners that meet the goal of being 'responsible peer-tutors'.

Group size - Relative to social interaction.

The smallest group, according to Heap and others²², is an individual self communicating with his/her inner selves:-

"We may say that each 'self' converses and interacts continually with this 'generalised other' (other inner self)." (p.131)

This inner interaction with oneself is considered as a form of personal social interaction, internal²³ with one's selves or own social system. This supports the idea of an individual operating as a unitary social being. The individual communicating within a group of other people can be interpreted as external interaction between social beings. Thus, we may differentiate between personal interaction within a social being and social interaction between social beings, in which a minimum group size is assumed as two persons or a dyad.

If the interaction is to be considered as a meaningful active experience, then it may also be interpreted as constituting a Learning Conversation relative to both the inner-individual and between others²⁴. Social interaction between persons can therefore be understood as a form of mutual Learning Conversations within a group, from which the premise of group learning may be derived.

²²Heap builds his arguments regarding the individual self from Mead and Lake, whereupon his group dyad and triad interactions are argued from Fischer, Bales and Borgatta.

²³I propose to refer to this inner interaction with oneself as an 'internal' process. The interaction between oneself and another will be referred to as an 'external' process. Both internal and external psychological processes are actually considered as 'internalised' events relative to the person. These will be later argued as inferred/referred learning conversational processes, relative to both a psychological and 'real-world' event-time relationship. These ideas are all linked to my 'personal-modelling' of SOL, Kelly, Piaget and Rogers.

²⁴See 'Learning Conversations', [Harri-Augstein & Thomas, 1991, pp. 134-136].

Negotiations and agreements made between SOL group members can therefore be argued as an informal form of contract between those persons. It is from this 'SOL-group theory' premise that I have derived the notion of a Group Learning Contract (GLC). Most Learning Conversations tend to occur naturally between small groups of people i.e. in two's as dyads or three's as triads. The question that I have reflected on with support from my tutor - via a number of action research 'developmental' tutorials - is this:-

What is the ideal group size for task-centred learning?

From a conventional closed group perspective, Bales's research²⁵ into size of group - as a factor affecting social interaction - shows that around seven members is an optimum figure. Bales argues that for groups smaller than seven the risk of alienating a single member is more severe. But in much larger groups than seven individuals lose their sense of interaction with each other - such that group members experience no meaningful relationships.

Open-group freedom of relationships and mutual exposure -

As these studies were researched relative to closed groups - rather than the proposed open-systems group learning scenario of the IT Workshop - group-size needs to be regarded from a different social perspective.

²⁵ [Bales, 1955]

Given the freedom of association or disassociation argument, then a transitory social mixture of formal and informal T-groups and Ψ -groups, interspersed by other 'freelance' individuals, represents additional degrees of learner freedom. These learner freedoms overcome the extremes of size normally affecting interactions within the closed group. This is because individuals remain empowered to choose from a range of possible social interactions. This happens relative to the available primary sub-group voluntary formations, which are independent of the overall open-systems secondary group size.

The identified degrees of learning freedom observed in the IT Workshop social learning scenario are as follows:-

- personal choice of individual study activity - disassociation status;
- formal-fixed T-group association via dyads, triads etc.
- informal-voluntary T-group association via dyads, triads etc.
- informal-voluntary Ψ -group association via dyads, triads etc.
- informal ad-hoc tutor-learner dyad association;
- informal peer-tutor associations;
- formal tutor-learner dyad association via 'booked' tutorials.

The IT Workshop therefore operates with a complex social-mix of potential associative learner-interactions. These are achieved mostly through the autonomous-led interventions by the learners themselves.

Interventions by tutors as domain group-leader specialists are therefore kept to a minimum. This allows for spontaneous T-group and Ψ -group voluntary formations between learners, enabling their autonomous - and motivational - control of the learning environment from which heuristic task-based activities may be performed. Intervention by tutors therefore defaults to the rôles of learning coach support and IT domain consultant. They have the key responsibility for management of learning aimed at provision of suitable learning resources and negotiation of individual PLCs via personal learning plans²⁶.

Such complex and transitory social activity will prove difficult to evaluate compared with the more conventional closed-group scenarios. This is owing to the snap-shot nature of multiple associative-disassociative interactions occurring between learners in an open-environment such as the IT Workshop. However, in-situ social observation records and the use of repertory grids will be considered as part of the overall social learning field evaluation study. These, along with staff and student learning accounts, will feed back any interesting findings from the action research social learning field development itself (see chapters 6 and 7).

²⁶See chapter 5, which deals with the application of the CSHL PLC for tutorial management of ITFMs as a FL curriculum delivery methodology for open-group learning scenarios.

2.2.3 Active and autonomous student learning

We have seen from the last section that autonomous learning might be enabled in an open-systems social learning scenario with persons available in-situ performing as part of a centre-resident social-mix from which the learner can 'dip-into' as a human learning resource. Such a venue therefore operates as both an enabling and practical service-centre for delivering a socio-heuristic educational policy.

If the IT Workshop can enable autonomous learning via its open-systems nature of socially interacting individuals, then it is worth considering the rationale underpinning the following questions:

- *What is autonomy relative to the individual person?*
- *What constitutes an autonomous learner?*

From this stance I would like to explore what underpins autonomy in general and find out how this relates to the idea of the autonomous learner, in order to differentiate the autonomous learner from other forms of learner²⁷.

²⁷Autonomy from this study and investigation is being analysed from mainly an 'educational' perspective, from which inferences relative to my own profession may be drawn. The idea of the CSHL Self-Organised Learner (S-O-Ler) as an autonomous conversational learner will be later compared and analysed in chapter 3 - SOL, Learning Conversations and Action Research.

A general definition of autonomy from the Collins[©] Concise English dictionary gives:

- the right or state of self-government;
- a state or individual possessing autonomy;
- freedom to determine one's own actions, behaviour;
- the doctrine that the individual human will is, or ought to be, governed only by its own principles and laws.

From these simple premises, a profile of individual autonomy would appear to relate the personal attributes of:

- possessing certain skills and dignity commensurate to being autonomous;
- the idea of a self-governing individual or personal managerial empowerment;
- freedom to choose one's own actions, behaviour etc., as a form of autarkical motivation;
- that the person is in a state of self-accredited control achieved through a unique set of personally adopted principles and laws, developed according to one's own beliefs that are ethologically confirmed through reflexive experience.

The following investigation of various sources will explore and develop these premises of individual autonomy, leading to their eventual relationship with the ideas underpinning the Self-Organised Learner as a form of personal management system (PMS). The autonomous learner ideas will then be argued in support of an open-systems learning scenario, as a means of creating and enabling a socio-autonomous learning environment.

One of the key differences identified by Harri-Augstein and Thomas between 'other-organised'²⁸ and Self-Organised Learners is illustrated in the S-O-L interpretation of what constitutes the autonomous learner, that is, individuals being encouraged to work within a conversational paradigm, being both self-aware and responsible for their actions. One major problem occurring in the current education and training climate is that autonomy is very often construed as the opposite of Self-Organised Learning, negating the very important principle of self-responsibility which S-O-L attempts to build on in order to enable an individual learner's Capacity-to-Learn. Thus, an investigation into what underpins personal learner autonomy is highly relevant to my own field of IT, where large classes of individuals are all working independently at some machine/computer interface.

Thus, in my investigation of other educational sources describing what personal autonomy might be, I've found David Boud's work in this field both useful and relevant.

²⁸See 'Learning Conversations', [Harri-Augstein & Thomas, 1991, pp. 9-10], where Self-Organised Learning is described as people seeking meaning through an autonomous conversational process. As opposed to other organised learning, which tends towards externalised imposition through Skinnerian conditioning, i.e. meaningless 'rote-oriented' exercises, where the locus of control is wholly that of the 'experts'. Harri-Augstein and Thomas describe Self-Organised Learning as:- " ..exercising the freedom to learn in 'conversational encounters' which are valued by using criteria which arise from the experience itself. ".

In answer to 'what is autonomy?', David Boud explores the topic relative to an educational context in his book²⁹ 'Developing student autonomy in learning', quoting a general definition from R. F. Dearden:-

"A person is autonomous to the degree... that what he thinks and does... are determined by himself., it cannot be explained why these are his beliefs and actions without referring to his own activity of mind. This determination of what one is to think and do in such activities of mind (involves personal management) .. of choosing, deciding, deliberating, reflecting, planning and judging." (p.22)

This appears to support the argument that autonomous individuals are responsible for their own actions relative to their own set of decision making skills. This is an 'anti-behaviourist' argument, as an autonomous individual responds to his or her own internal stimuli as a prior activity, rather than to an externally invoked stimulus³⁰ as a form of conditioned response.

²⁹ [Boud, 1981].

³⁰It is not suggested that people cannot be trained to respond to external stimuli, i.e. the soldier trained to shoot on sight can do so upon the order, but is requested to perform this act without question and immediately; and herein lies the problem. The soldier behaving in such a manner is doing so in a *robotish* manner and is therefore not autonomous. He/she is actively encouraged not to reflect or dwell on any order given, and is thus removed from any personal responsibility, other than merely to obey and carry it out. In this sense the method of training is anti-autonomous, as 'army-styled' discipline removes individual responsibility of one's actions relative to orders given. Thus, to enable people to perform in a 'behaviourist-styled' manner requires exhaustive training and de-humanisation tactics. From these arguments it would appear that the humanistically inclined autonomous individual is not suited towards a 'behaviourist-styled' training scenario. Where learning is relegated to its lowest possible order as a 'mechanistic-styled' robotish process. The CSHL SOL three stages of personal learning awareness place 'robotish-learning' at the lowest level, owing to the lack of reflective skills relative to both task and learning awarenesses.

Boud also quotes Benjamin Gibbs:

" an autonomous individual must have both independence from external authority and mastery of himself and his powers. He must be free from the dictates and interference of other people, and free also from the disabling conflicts or lack of coordination between the elements of his own personality. He must have the freedom to act and work as he chooses, and he must be capable of formulating a rule, pattern or policy of acting and working." (p.22)

This supports the argument that the personal management system (PMS) of a self-organised learner represents:

an autonomous individual with an acquired set of self-supporting internalised skills, that can be managed according to the uniquely developed set of rules and practices. Constituting as both the ethological quality and repertoire of the personal system

This is a proposed definition of the PMS underpinning the current state of potential personal autonomy, achieved according to an individual's own unique abilities and qualities to do so. Boud argues from Dearden that these qualities include:

- the personal right of wondering and asking;
- being critical, with right of refusal or compliance to other persons' views and perspectives;
- defining personal objectives, needs and interests;
- independent determination of goals, policies, plans and intentionality;
- having alternative choices from which outcomes may be chosen;
- formation of own opinions relative to topics of personal interest;
- self-government of actions and attitudes relative to personal activity.

Consequently, the autonomous person is seen as having a mind of his or her own, with freedom to act according to one's own uniquely determined personal management system. This personal management system constitutes a form of self-organisation - and one's development of it as - managing an experiential form of learning. It is possible to relate³¹ these ideas of personal autonomy and PMS, to the conversational philosophy underpinning the CSHL Self-Organised Learner or S-O-Ler (see chapter 3, conversational processes, pp.103-111).

Now that some of the ideas behind the autonomous person have been explored, I would like to widen the investigation to include 'enlightened' educational criteria that attempt to define³² the autonomous learner.

Firstly, what exactly is an autonomous learner? Boud investigates this question but is puzzled by the lack of conceptual and empirical research. Boud compares the neglected field of autonomous learning to that of classroom/educational testing research, where there is a plethora of literature and studies. Boud discriminates between two kinds of potential educational policy towards autonomy. Should it produce an autonomous person as a product-oriented approach? Or is policy to be directed towards activities which require students to act autonomously as a process-oriented approach?

³¹Chapter 3, however, shows that the key influences behind S-O-L are derived from Kelly, Rogers, cybernetics and the 'humanist' paradigm.

³²These ideas will then be compared with Flexible Learning, Open Learning and IT educational issues. These will then be finally interpreted relative to the S-O-L conversational paradigm discussed in chapter 3. Where all these issues underpinning autonomy of learning in the IT Workshop will come together as an S-O-L management of learning policy.

Boud argues that programmes allowing for students to be autonomous in the process of learning would not by themselves guarantee the product of an autonomous person. This caution implies that educational programmes facilitating an autonomous process - such as flexible learning - may not enable autonomous learners as a consequence. This implies the need to develop systems enabling personal autonomy management skills within any such proposed programmes. Boud also argues that autonomy:

" cannot be pursued in a vacuum: it does not necessitate isolation from the ideas and experience of others. Its exercise has a social context: (quoting Chickering as saying)

Mature autonomy requires both emotional independence - freedom from continual and pressing needs for reassurance and approval - and instrumental independence, the ability to carry on activities and cope with problems without seeking help from others and the ability to be mobile in relation to one's needs. Simultaneously, the individual must accept interdependence, recognizing that one cannot receive benefits from a social structure without contributing to it, that personal rights have a corollary social responsibility.

(However)...there is an unavoidable dependence at one level on authorities for information and guidance. Interdependence is therefore an essential component of autonomy in action." (p.23)

From this study Boud cautions about defining independence relative to an academic context. Boud cites Dressel and Thompson (p.23), who warn that the student should be capable of self directed study, otherwise any independence from traditional contact would be a meaningless process.

This supports the argument that the student requires the skills and abilities of being an autonomous learner as a prior learning requirement, before being let-loose into programmes with an in-built autonomous process. This prior learning requirement regarding a student's ability to perform autonomously is a key design element of the proposed CSHL PLC structure, which has been built into the IT Workshop ITFM programmes. Thus the tutor acts in the rôle of a learning coach and enables SOL skills as part of developing the overall PMS of the student.

The idea of setting up a suitable social structure to promote interdependence between learners as a means of enabling autonomous active learning fits in with the practice of developing the IT Workshop as a means of delivering a socio-heuristic educational policy. Thus, interdependence between learners can be delivered as associative learner-interactions. Thus personal autonomous development opportunities are maximised by a rich and diverse social-mix of centre-resident learners. Such a 'collective' proffered as a group learning resource, thereby enlarging the number of degrees of individual learning freedom. The autonomous learner product is therefore enabled by an open social-systems solution, operating within official educational programmes. The programmes are organised according to an autonomous management process, i.e. the proposed ITFM course structure approach that I have adopted.

Boud's cautions with respect to developing autonomy in learning programmes include:

- the failure to discriminate between independent study as a learning experience and as a capability to be developed;
- the problems of independent study as a self-directed pursuit;
- that autonomous learning is developing student responsibility towards their own learning.

These problems have been accounted for in the IT Workshop open systems development, as independent study represents only one degree - or aspect - of learner freedom. Independent study represents the opportunity for group disassociation via independent modular study programmes.

This is encouraged as an autonomous process by the development of unique personal learning plans for every student. However, self-directed PMS/SOL skills are developed 'in-house' within the IT Workshop social learning scenario. Thus individuals are actively encouraged to take their own responsibility for making decisions. This is done within the pretext of ad hoc (*on-the-job*) problem-solving tasks, performed within an open-systems educational context which provides interaction opportunities for social group learning. These opportunities are engineered so as to enable group learning activities as both a problem solving strategy and means towards developing personal responsibilities. Such available opportunities constitute a set of social resources underpinned by the number of degrees of potential learner freedom. This type of scenario enables the practice of autonomous action learning.

This policy of maximising the degrees of freedom to learn are Rogerian in both philosophy and approach. Boud acclaims Rogers's emphasis on facilitating group interactions as an enabling approach towards developing autonomy in learning:

"Rogers's emphasis is on facilitating group interactions and on a degree of non-directedness which is in contrast to some of the other earlier approaches. ...His (Rogers's) overriding contribution is an insistence that what is important in developing student autonomy and in enabling students to take responsibility for their own learning is not any technique or teaching methodology, but an attitude towards students of acceptance and understanding of their views, desires and frame of reference, and the relationship between teacher and students which develops as a result of this acceptance. As Rogers says in the context of therapy, but which is applicable to education:

We moved from the method to the attitudes to the relationship as the key ingredient in the (educational) process." (p.37)

This therapeutic and Rogerian view of developing student autonomy implies that the 'freedom to learn' is largely defined by the quality and opportunity to develop such positive relationships relative to the students' own particular needs. This is why student empowerment - through the exercising of the seven degrees of learning freedom available in the IT Workshop - provides the opportunity to develop complex associative learning relationships. This is to be achieved relative to as wide a range of social contexts and personal needs as it is possible to envisage and plan for.

As Rogers extols in 'Freedom to Learn for the 80s':

"Freedom to learn or choose; self-directed learning; ...what possible definition of freedom can there be? ...the freedom that I am talking about is essentially an inner thing .. that exists in the living person. ... (It is) ..to choose one's own attitude in any given set of circumstances, to choose one's own way. It is this inner, subjective, existential freedom that I have observed. ..It is the discovery of meaning from within oneself .. (from) .. the complexities of what one is experiencing. ..It is the burden of being responsible for the self one chooses to be. ..It is the recognition of a person .. (as) an emerging process, not a static end product. (Freedom exists) .. in a different dimension .. (compared to the) .. sequence of cause and effect (and) exists in the subjective person .. (as a means to) live her potentialities." (pp. 269-277)

However, autonomous learning is also seen as mainly a reflective practice, within which freedom is perceived as a discipline; so claims Donald Schön³³ in 'Educating the Reflective Practitioner', where he says:

" freedom is a discipline - the step beyond progressive education(where) ... freedom from something is not freedom." (p.123)

The discipline associated with Schön's learning freedom are the personal skills of both reflexive and reflective practices, which from my previous arguments constitute a PMS underpinning the self-organised learner.

These social and personal contexts of freedom can therefore be experienced and developed by individuals in an appropriately designed (socio-autonomous) learning environment.

³³ [Schön, 1987]

Davies gives the CET definition³⁴ of autonomous learning as:

"It (learners' control of their own learning) is a desirable trend, both in terms of contribution to the self-esteem and independence of the individual, and because by closely identifying the learner with the choice and conduct of the learning, it generates a greater sense of commitment (motivation) and involvement." (p.10)

This statement supports the idea of the autonomous learner developing a set of personal 'socially-based' skills, backing the Rogerian view of attitudinal development through social relationships.

Finally, reflection as an active and autonomous personal skill is promulgated to FE practitioners from the FEU report (earlier examined in section 2.2.2) 'Leadership in Learning', which proclaims the need to devise appropriate participatory (or activities-based) experiences in order to develop student autonomy:

" (Tutors in FE should be) devising participatory experiences through which young people could learn about self-sufficiency and develop autonomy." (p.6)

That implies that autonomy is an autarkical active process of the person.

'Leadership in Learning' emphasises the nature of organised reflection as an underpinning autonomous personal learning skill:

"It is suggested that the learning process should be considered as being in three phases. The individual's experience needs to be followed by some organised reflection. This reflection enables the individual to learn from the experience, but also helps identify the need

³⁴Taken from:- 'Towards Autonomy in Learning...', [Davies-CET, 1987,].

for some specific learning before further experience is acquired."
(p.5)

Reflection as a S-O-L skill is to be explored later - in chapter 3 - as an inner Learning Conversation representing one of the key inner-self processes that determine one's freedom and ability to practice.

2.2.4 Open and flexible learning (OL/FL) workshops as a social learning scenario for IT

In summary, a case has been made for enabling autonomous learning skills via an open-systems, socially-based group learning scenario. The diverse social-mix of learner targets potentially contributes as an additional human resource, owing to the increased number of associative interaction learning opportunities. These were defined as the degrees of social learning freedom to be found in the IT Workshop. However, open and flexible learning workshops need also to be considered from a physical resource perspective. This is so that educational change-management from a CL to FL³⁵ delivery paradigm can be both accounted and planned for.

³⁵The case for whether FL is better than CL delivery systems has recently been proven from the 'Balcarras Experiment' [O'Connor, 1993], published as a major TES review investigating the merits or otherwise of introducing FL into schools. A classical 'control-type' experiment compared two groups of school-based learners studying for GCSEs over a period of time. It demonstrated that the learner retentivity of learning was significantly higher for the FL group. This concords with my own personal experiences as both a teacher and learner.

This view is acknowledged by the FEU in their report³⁶ 'Supporting Adult Learning : A Curriculum Strategy for the Development of Continuing Education and Training for adults', where they observe that:

" (FE colleges) ... will certainly require more flexible forms of provision responsive to the varying (needs) circumstances of particular client groups such as the unemployed. Learners should be able to make informed choices about the pace and style of their own learning. This may lead to independent or distance learning projects, workshop activities, or collaborative learning in small groups." (p.11)

This view supports the idea of developing my IT modules according to a flexible modular delivery paradigm. They are to be aimed at all types of flexible attendance adult targets, using an appropriately resourced service-centre venue that will enable these opportunities, i.e. the IT Workshop.

Indeed, the FEU in their report³⁷, 'FL opportunities', provide a prescriptive definition of how to implement FL:

" (The practical) ... definition of FL is based on four factors:

1. aims and content of learning;
2. the characteristics and stage of development of the learner;

³⁶ [FEU-Supporting Adult Learning, 1987].

³⁷ [FEU-FL opportunities, 1983].

3. the process of learning:

- the mode of learning;
- the resources for learning;
- the mode of attendance;
- the pace of learning;
- interaction with others;

4. the method of assessment

The inter-relationships of these four factors will determine the most appropriate way in which particular learning opportunities should be structured and organised to meet the needs of an individual learner; but these decisions will also be affected by the extent to which both the teacher and manager are able to accommodate them." (quoted from listed paragraphs 18-20)

From this stance we see that the specific and generic IT curriculum comes under factor 1, while accreditation of prior learning and personal curriculum needs can be identified with factor 2. Factor 4 covers matters of assessment, whilst factor 3 covers the main issues affecting the process of learning. Factors 1, 2 and 4 will be explored in the following sections (i.e. 2.2.5 - 7), leaving factor 3 for discussion now. I have already explored issues affecting the important process of 'interaction with others'. This leaves: mode, attendance, resources, and pace of learning. These three issues will now be addressed relative to an OL/FL delivery axiom.

Ken Dixon, in 'Implementing Open Learning in Local Authority Institutions', addresses these issues from mainly a practical stance, but simultaneously provides a rationale and framework within which OL issues can be understood. Dixon's definition of OL - which can be taken as covering any form of open-systems group learning - is given as:

" ... the term 'OL' is used to cover a wide range of learning opportunities that aim both to assist learners in gaining increased access to knowledge and skills they would otherwise be denied and to give learners the optimum degree of control over their own learning. The providers of such opportunities are required to devise learning strategies which stress to varying degrees the centrality of learner choice. The wider the range of strategies, the greater the choice. Thus the potential strategies available to providers may be seen as an infinite number of stages along the axis of a continuum from totally closed provision - teacher directed instruction of selected groups in defined blocks of time - to totally open provision - complete freedom on the part of learners to design their own curricula and pursue them at their own convenience." (quoted from report paragraph 1.1)

Dixon prioritises the 'centrality of the learner' and thereby extols a learner-centred philosophy, around which delivery strategies should be sought. Dixon notes that the key factors affecting learner control over learning are:

" ... aims and content of the learning, learner characteristics, and modes of learning and assessment. OL systems seek to assist learners in designing a curriculum to meet their own perceived learning needs, to obtain recognition of the validity of their experience .. (i.e. self-accreditation and dignity), to learn at a time, place and pace of their choice, and to present evidence of attainment and achievement in an appropriate manner." (quoted from para. 1.3)

Dixon also argues that OL provides a way of improving access to further, higher and adult education for all learners, making the overall provision more responsive to needs with potential improvement in the quality of the learning process. Dixon goes on to argue how OL might manifest itself in the institution, pleading for an integrated approach to delivery systems by sharing the same resources and staffing for *all* student targets. This implies integration of both 'mainstream' and part-time adult students i.e. a 'social-mix' of all learner targets. This social-mix is argued for, from mainly an economic stance, rather than from one extolling the socio-educational benefits that might potentially accrue - especially when one considers the open-systems group theory arguments made in the previous sections.

The unfortunate irony is that, for many FE institutions, OL centres have tended to be hived-off as exclusive adult drop-in centres, catering for the unemployed and women-returner targets, while FL centres have been developed mainly for foundation (full-time school leaver) students³⁸.

³⁸This has indeed been the case in my own institution (St. Austell College), where it is only the IT Workshop section of the FLC that has a diverse social-mix of learners, mainly because I have set-out to do so as a key learning management policy. This manifested through the re-designing all my IT modules along ITFM lines that takes these: delivery, access and centrality of learner issues into account.

This criticism highlights the two key problems that have largely stymied OL/FL developments in most FE institutions, namely:

- *That such segregation of both key target groups creates artificial institutional barriers mitigating against individual progression - for the flexible attendance adults - into the mainstream bulk of course opportunities³⁹ in the college.*
- *That mainstream students are denied both the OL resource infrastructure (including ABE remedial services), plus the 'social-resource' relationship opportunities with adults from their own community.*

Another cautionary point is that, whilst learner characteristics are recognised in the sense that they need to be catered for, they do not seem to be understood and realised relative to learner-learning problems of PMS autonomy-related skills. This requirement⁴⁰ for a prior-learning qualification for the OL/FL autonomous learner has been largely overlooked. This results in motivational problems - particularly with low standard GCSE qualification school leavers - that these learners tend to exhibit when issues of this nature are not taken into account.

³⁹Because traditional course opportunities are still mostly delivered and managed according to the CL paradigm, operating effectively as an institutional barrier to most part-time adults. Dixon acknowledges these barriers in para. 1.2, circumventing the issue to some extent, by claiming that new technology resources and courseware might:- " ..seek to encompass those learners *excluded* by the traditional pattern."

⁴⁰Which will be shown later in chapter 3 as a SOL 'educational-therapy' practice requirement, whereby 'learning therapists' in the guise of learning coach tutors help to enable students to become Self-Organised Learners.

In addition, Dixon identifies and addresses most of the practical domain-related issues with regard to support staff, accommodation requirements, calculation of equivalent class-contact hours for tutor support of flexible case-loads etc. His practical analyses recommend that:

- " .. in the implementation of OL schemes, authorities and institutions should give due consideration to the role of administrative and other non-teaching staff when staffing establishments are under discussion; (para. 8.8)
- .. account should be taken of the potentially different loading of work on tutors between local and distance systems of open learning; (para. 7.12)
- .. the allocation of staff for tutorial support in learning workshops should be agreed on an agreed ratio of tutors to learners per hour that a workshop is open; (para. 7.2)
- .. a scale based on six learners per tutor hour should form a basis for local negotiations; (para. 7.6)
- .. institutions should allocate a number of learners, usually known as a caseload, to a tutor and then use a locally negotiated formula to convert caseloads to tutor hour equivalents, often referred to as class-contact credit ... with a facility for - and frequency of - caseload reviewing; (para's 7.4 & 7.5)
- .. work volume calculations for open learning clients should be based on the regulation for part-time students, and involve a calculation based on notional individual study hours; (para. 5.2)
- .. the possibility of buying-in learning materials should be examined before investment is made in in-house development; (para. 3.2)
- .. institutions should formulate policies on open learning provision; (para. 3.6)

- .. the formulation of staff development policies in relation to OL be accorded priority; (para. 9.8)
- .. institutions should assess critically their allocation of space for OL with respect to both tutors' and learners' needs; (para. 10.2)
- .. institutions should provide their tutors with access to telephones appropriate to the needs of OL; (para. 10.5)
- .. OL clients should be neither privileged nor disadvantaged by the pricing process. That is, the tuition cost element of the price should reflect the fee structure of and policy governing the traditional delivery system. ..." (para. 12.4)

All of the above recommendations represent practical organisational issues with viable solutions affecting the real-life delivery of FL in an open-systems learning environment. Many of these solutions will have to be addressed and negotiated with line managers. However, those matters affecting the direct educational delivery issues will be accounted for as part of the IT Workshop management of learning policy.

Despite all these practical ideas and recommendations from Dixon⁴¹, I personally have observed very little change in both my own and other FE colleges from the south-west of England.

⁴¹Dixon's consultancy and research was sponsored by both the FEU and MSC at the time of publication in 1987. [Dixon, 1987, pp.17-33]

As if to re-iterate the move towards open and flexible learning practice in FE colleges, the FEU disseminated in 1990 a two-part publication entitled 'Flexible Colleges - Access to learning and qualifications in FE'. Part 1 is entitled 'Priorities for action', and Part 2 'A planning handbook'. These references were briefly noted in section 1.2.2, citing them relative to the local problem I and other colleagues experienced in attempting to move from a CL to FL practice paradigm.

'Flexible Colleges' also recognises this requirement for a paradigm shift and compares both modes of delivery in tabular format (in Part 1 pp.10 - 21). The document elaborates upon the distinctions between the course-based college and the learner-centred college, see fig.(2.1) - The FEU 'learner-centred' college. The FEU then disseminate a change-management strategy in section 2: 'Transition to learner-centred colleges'. In section 3, the key inhibitors to progress are elaborated in substantial detail - providing a highly significant awareness of these issues - giving suggested solutions and strategies towards solving these practical management problems.

By such inferences to strategies for overcoming change-management barriers, the FEU has provided a practical educational management guide for implementing flexible learning. Yet despite all of these initiatives, many colleges still do not appear to have radically changed⁴².

⁴²There is - to the best of my knowledge - no official research, register or audit appertaining to any of these changes, other than a MSC-DoE directory disseminating geographical (mostly FE) locations of OL centres around the UK regions. Everything I quote is therefore both relative and subject to my own empirical observations as an *inside-member* of the profession. It should be noted that I make these comments in early 1994, where perhaps in 1995 everything will be different! (I suspect not somehow!)

My analysis of this question in chapter 1 was relative to my own local context. I proposed the idea that the issue was essentially a cultural one. All the involved practitioner personnel in the college would need to make a *creative paradigm shift* towards any new proposed practice if effective change was really to happen. However, reversions to previous ways tended to happen if management had an adaptive rather than a generative learning policy. Adaptive policies were therefore argued as an explanation of organisational scenarios, where change and developments occurred primarily as reactive management policies, directed by external pressures⁴³ and events.

In conclusion - regarding the FEU's focus and attention drawn towards *inhibitors to progress* in the field of FL college developments - the FEU does not appear to have addressed the real-life social and cultural issues. It is these problems that I have experienced - as an FL protagonist and practitioner for over a decade - and reported upon for this action research project. This lack of any social psychological dimension managing change of staffing practices in FE seems to be a major problem.

⁴³At the time of writing, these 'external pressures' are represented by bodies such as the FEFC and the CEF (College Employers Forum). From the 'Funding Learning' policy document it is clear that OL/FL is wanted in colleges. However, flexible working practices for lecturing staff is being proposed as a '*de-skilling*' exercise relative to the delivery of the new NVQs, with consequent diminution of perceived status and conditions of service. This pressure - to worsen the status of college teaching staff - is being done on the economic pretext of increasing student throughput for roughly the same resourcing level costs. Consequently, many of my colleagues are either alienated - or at best suspicious - of the funding policies being contemporarily imposed. For me, this is yet another irony, as the FEFC intentionalities for funding learning are on the whole positive and move in the direction of delivering OL and FL systems in colleges. But, the economic caveat being imposed by the CEF - on denigrating conditions of service for all college teaching staff in the name of *flexibility* - will most likely 'back-fire' and cause an unprofessional social retrenchment against individual creativity and enthusiasm. It will be interesting to compare this footnote to actual events at some future time.

This lack of any social accountability to college staff has been undermining the present 'nationally-directed' FE policy developments. None of the teaching staff in FE - including myself - have been democratically consulted or negotiated with, regarding these major top-down policy initiatives. This seems somewhat hypocritical, when you consider that we are being asked to practice a democratic learner-centred control model with our students. This state of affairs clearly demonstrates the problems of trying to introduce flexibility into the organisation whilst maintaining a top-down hierarchical control structure. Carl Rogers and others also condemn this style of control-management, describing it as an 'un-free' policy, stultifying staff creativity.

2.2.5 Individual tutoring system to support on-the-job accreditation of prior learning and achievement (APLA)

I have so far developed the rationale underpinning the practical development of OL/FL delivery systems in FE. Four key factors defining practical issues of FL curriculum development relative to an open-systems approach were identified. Factor 2 of these identified the importance of taking into account *'the characteristics and stage of development of the learner'*. This section will now explore these *learner characteristics* relative to the accreditation of prior learning (APL) and issues of personal curriculum needs affecting the individual autonomous learner.

From Dixon and other FEU sources investigated so far, it is apparent that there is a broad consensus that OL/FL delivery systems need to be underpinned by some form of individual tutorial support system.

The key question Dixon raises regarding the nature of any such tutorial system is:-

"What is.. (the) .. function of tutorial staff in open learning?" (p.3)

From which Dixon identifies 5 key categories:

1. pre-course counselling;
2. tutorial support in workshops;
3. mark + comment on assignments, local and distance;
4. conduct tutorials + in-course counselling, local;
5. develop or modify learning materials.

While agreeing with all of these tutorial rôles in principle, I had identified - from my own experiential learning as a teacher - that the enabling of autonomous learner skills was a missing component. Hence, in answer to my own question of:

How do recommended OL tutorial systems support learners with methods and strategies for enabling autonomous PMS/SOL type skills?

I discovered from my investigation of FEU sources that tutorial support was recommended as an informal consultancy service linked (somehow) to a systematic monitoring and review of progress. However, there were no specific recommendations, or even an *identification/acknowledgement of the problem*, regarding the development of PMS/SOL type skills. Such recommendations are essential for those educationally *disabled learner targets* that are personally disorganised and either reluctant or unable to participate in the learning process.

It seems, therefore, that the hidden curricular hope in developing well organised OL and FL centres is that autonomy might (somehow?) work itself into the product (i.e. the learners). Autonomy is an *assumed* - but unacknowledged - part of the process. This is the caution that Boud expresses, from which current OL FE policy might just as well be stated in the following form :

That the open and flexible learner shall arcanelly receive his/her autonomous PMS/SOL skills through an experientially managed process of default, rather than by one of design.

In FE teaching I have observed many full-time mainstream students - having arrived in the college as school-leavers - that could be described as falling into this 'un-autonomous' behavioural category of the educationally disabled learner.

This issue has also been raised by Sheila Harri-Augstein and Laurie Thomas, in their book 'Self-Organised Learning', where they describe the nature and attributes of the educationally disabled learner and impersonal learning in general:

"Individuals achieve personal learning by reflecting upon their own experience ... (but, for) ... those who do not bring this relatively simple mechanism into operation ... reinforces the barriers within them that interfere with creative understanding. ...Much organised education, training and therapy does not encourage personal learning ... (with the consequent outcome that) ... even among the 'successful' most people learn how to be taught, not how to learn. They become dependent upon being instructed ... (whereupon in the absence of being taught) ... are unable to continue learning.

Thus many people leave school believing that effective learning consists of receiving established systems of objective knowledge in well-organised pre-digested forms. Such people may have learned how to be taught but have not learned how to learn." (pp. 14-15)

Harri-Augstein and Thomas identify the fact that many educationally disabled learners are the by-product of their institutional learning experiences:

"The disabled personal learner becomes self-defined within organised T-C (teachers, therapists, trainers .. to consultants) as naughty, unable to concentrate, stupid, bloody minded, pathological, daydreaming, bored, distracted or as always interested in the irrelevant. ...The cost of impersonal T-C is an increasing army of alienated and/or disabled personal learners who will eventually achieve the disintegration of society." (p. 16)

I have observed in many school-leavers - and some returning adults - an attitude that I propose to call disabled learners syndrome. Such affected learners tend to require constant attention and support from their tutors and appear incapable of working alone. It is from possessing these *anti-autonomous learner characteristics* that such people are generally unprepared for working in flexible learning centres, owing to their unfortunate lack of PMS/SOL motivational skills. Quite often I have heard my colleagues say things like:

"We don't trust sending them as a group down to the flexible learning centre, as they are an irresponsible crowd that at the first opportunity will 'clear off down-town' to enjoy themselves in the amusement arcades."

This suggests that these mainstream students are self-defined by their tutors as both reluctant and educationally disabled learners. They clearly do not enjoy or identify with the learning process imposed upon them by the CL delivery paradigm approach.

Hence, the rôle of the tutor relative to this particular - and unfortunately common - type of learner characteristic needs to be more enabling and therapeutic in nature; as Harri-Augstein and Thomas express in 'Self-organised learning':

" (No such learner can) ... exploit their infinite potential by merely being facilitated by a non-directive practitioner" (p.xxvi)

It is from a recognition of the above arguments - and confirmation from my own personal empirical experiences of the many persons exhibiting disabled learners syndrome - that suggests a key rôle of the IT Workshop tutor must be that of a learning coach. The learning coach's main purpose is to wean learners away from these disabling attitudes and myths, towards a personal learning system that enables autonomous learning practices. The proposed solutions are problematic as they require major shifts in organisational attitudes and practices, creating difficult social issues in their own right⁴⁴.

Despite all these problems, it is still suggested that the learning coach (tutor) assumes the mission of an educational therapist (counsellor), developing a Rogerian-type *relationship* with the learner, to enable the hidden potential from within.

⁴⁴Given the years of negative conditioning experienced by most learners with these problems. It represents a difficult social and political issue, if it is to be openly admitted that the previous 'school-based' institutional experiences were somehow responsible for disabling their freedom and potential ability to learn for themselves in an autonomous fashion. Especially when most of the delivery systems in one's own institution are still modelled on a 'school-type' experience.

From this learner-learning axiom the action research attempts to tackle this issue by implementation of *learning enablement tools* such as the CSHL PLC. The PLC has been integrated into the *learning process* underpinning the ITFM in-house developments.

Having now considered learner characteristics relative to the rôles of the OL/FL workshop tutor, the argument will now turn to explore ways and means of identifying the learner's stage of development relative to his/her perceived needs. The process of Assessment/accreditation of Prior Learning and Achievement (APLA), seeks to develop ways of identifying and accrediting an adults' previous learning.

From the FEU research project⁴⁵ (RP448), 'The assessment of prior learning and achievement, the role of expert systems', we have the following statement of intent:

"This FEU project ... is not conceptually confined to vocational qualifications. However, its priorities are concerned with easing access to the type of vocational course offered by FE colleges." (p.1)

The report concerns itself with how assessment of learning can be built into learning programmes. It cites the principle processes for APLA as SISE⁴⁶:

"S is *Systematic reflection on past experience;*

I is *Identification of significant and relevant learning experiences;*

S is *Synthesis of evidence into a portfolio etc.;*

E is *Evaluation by the assessor."* (para. 34, p.11)

⁴⁵ [FEU-APLA, 1990].

⁴⁶This compares interestingly with the CSHL procedures of TOTE and TTPSORR. See next chapter re:- SOL processes. These 'similarities' confirm the idea that APLA is part of the 'on-going' learning process, and should therefore be 'built-into' the course programmes. Such as I have attempted to do with my ITFM programmes - see development of ITFMs in chapter 5.

In paragraph 35 the professional rôles of the SISE processes for the evaluation of prior learning and achievement are identified as:

- counselling
- tutoring
- assessing and validation

2.2.6 Integrating authoritative and personal assessments

The FEU also envisage APLA as integrated into course programmes:

"Where the assessment of prior learning and achievement is part of a course or series of tutorials, the rôle of the tutor is self-explanatory, although it may be merged with that of an assessor." (FEU-APLA, 1990, p.11)

For the tutorial management of ITFM programmes, I will be developing the above APLA criteria via a policy of integration into the IT specialist tutor rôles. These on-the-job APLA activities will be carried out in the IT Workshop as a formal 'tutor-learner' dyad association via an open system of 'booked' tutorials. Tutors performing both learner management rôles (i.e. as learning coach and subject domain assessor) will have the advantage of developing a more holistic and meaningful relationship with the learner, thereby imparting a greater sense of trust and mutual understanding relative to the learner's own frame of reference. As a consequence, the tutorial rôles of the IT Workshop tutor will be developed to integrate all forms of authoritative and personal assessment systems.

Integrating the full range of assessment procedures should help enable the PMS/SOL skills of the learner. This will be achieved as part of the institutional curriculum responsibility and overall learning policy.

Hence the overlapping and intertwining of personal learning plans (including PLC assessments) with modular flexible learning plans (including C+G IT exam assessments) integrated by a formal PLC and informal GLC. All these combined assessment procedures therefore play significant parts in the educational rationale underpinning the overall management of learning policy in the IT Workshop.

2.2.7 IT management :- Principles, aims and needs

This final FE-related theme continues the discussion from the IT introduction given in chapter 1, where, in section 1.4, the origins of my IT curriculum experiences were outlined. These included the rationale behind my introduction of C+G 7261 IT modules. This led to my discrimination between generic and specific IT applications programmes, culminating in the action research development of the ITFM programmes.

In this section I would like to explore and identify some key IT management issues and arguments. In that way my development can be evaluated in the light of how these IT-based professional considerations have also to be incorporated into the action research 'needs' agenda. This will show how these IT needs both affect and influence the implementation of the ITFM programmes.

The first issue to raise is the notion that new technology areas such as IT represent new challenges and *opportunities* for life-long learners. An open-systems resource centre, such as the IT Workshop, provides a new social learning scenario for 'testbed' development of flexible and distance learning (FDL) courses.

From the DELTA group review board a draft report was recently published entitled: 'Information and Telecommunication Technologies applied to Education and Training'⁴⁷. In its rationale, DELTA promulgates the idea of life-long learning through the use of technological opportunities:

"The implications of technological change for life-long learning and HRD in Europe will be significant. The potential rôle of FDL in meeting this challenge is recognised. It provides a flexible, accessible ... means ...of extending high quality education and training to individuals and enterprises throughout Europe. The application of learning technologies in FDL could ... expand .. access to life-long learning ... (which will most likely) ... complement, replace, and enrich more conventional modes of education and training. ... Autonomous learners ... will benefit from this ... (opportunity, where) ... learning technologies could potentially have an important social rôle in reducing the instance of unemployment in disadvantaged regions, facilitating the reskilling of the labour force ... extending access to individuals ... (and responding) ... to the specific needs and requirements of individuals, especially for those otherwise precluded from participation."

⁴⁷The DELTA review board is an EEC sponsored body and operates as part of the new EU education group. Its remit is to explore strategies and programmes for future R&D in the domain of telematic systems for learning. Its recent draft report [DELTA, 1993, pp.5-20] has reviewed research policy on all future programmes.

DELTA also recognises that developing new ways of learning by innovative use of technologies can help to enable self-learning competencies:

"Motivation is a key requirement for learning, and the use of FDL, by virtue of its capacity to give the learner control over the process of learning (self-learning competence), has an important role in this connection. ... Increasing emphasis should be placed on communication and on the social aspects of learning, especially on how to access, structure and communicate information. Learning should be seen as a collaborative process, which stimulates insight and deeper understanding. Active reflection, discovery learning, learning-by-doing, and learning to learn are key components. ... New learning approaches and methodologies should be analysed and developed in order to cope with learning in these technology-supported environments."

DELTA has also highlighted some of the key research questions that I have already identified regarding social aspects of autonomous learning and the reduced degrees of freedom for isolated learners:

" (Practical research is required to determine) ... which technologies are the best suited for different types of learning settings?, and how to overcome isolation using learning applications as an autonomous learner or in an on-the-job situation?"

Finally, DELTA supports the idea of R&D projects in testbed centres that provide for a service infrastructure supplying the FDL IT personally tailored needs. A *hint* at a system of European Vocational Qualifications (EVQs), as a means of providing for trans-national learning and personal mobility, is also suggested:

"(In order to offer) ... advanced learning services closely adapted to individual needs, a service infrastructure is required to bridge the gap between the potential demand for learning services and their supply. The essential social aim of such an infrastructure should be to provide access to learning services at a time, in a place, and through the language, appropriate to the learner's needs; thus allowing individuals to learn in the manner most appropriate to their circumstances. It would be important also to provide for learner interaction with peers and tutors where appropriate. ... Special importance should be given to :

- implementation scenarios, including accreditation, curricula, titles, connection with university/industry actions,
- common training needs covering substantial numbers of learners. ...

The potential impact (of any new systems) can be measured through pilot tests validating innovative developments of learning systems and infrastructures.

... (Studies of) ... pedagogical effectiveness of technology-based learning, (with) more research on diagnostic assessment of the learning process and behaviour and the development of individual action plans. Research should explore (how) different learning environments support collaborative or individualistic modes of learning. The skill requirements for tutor effectiveness need to be established and the requirement for further support agencies identified. ... Although implementation is beyond the scope of this research programme, the work envisaged should pave the way for the emergence of trans-European services for education and training and facilitate market uptake"

Thus, DELTA has identified much of my action research agenda as a priority mission, some three years after the start of the IT Workshop development. No doubt DELTA would acclaim my project as a valid pilot. This is owing to its real-life 'testbed' and social scenario nature, operating as an action research field development with the learners themselves.

As a consequence, the IT management key principles, aims and needs are moulded around the individual social requirements of both key target categories of learners - i.e. the FDL life-long adult targets and the full-time foundation students.

The Hopkins report, 'Principles for Effective Management of IT in Colleges', was published initially on behalf of the FEU and then subsequently as part of an FE staff development pack disseminated by the NCET/DES⁴⁸. Hopkins promulgates 12 key learning management principles that I wish to adopt and incorporate into the IT Workshop management of learning policy:

1. Exert positive leadership via innovation, teamwork.
2. Have a strategic vision.
3. Plan purposefully.
4. Establish an IT co-ordinator at SMT level.
5. Have central policies re:- hardware, software, courseware, INSET.
6. Organise pro-active curriculum-led staff development.

⁴⁸ [NCET-IT, 1992, pp.6-29].

7. Establish IT teamwork - mutual self-help by members.
8. Establish IT literacy at basic skill level as a 'core-entitlement' for all students (and staff) plus the specific vocational requirement for IT.
9. Establish Open and Flexible Learning Centres, backed-up with IT resources and personal support services.
10. Be open to re-organisation to facilitate integration of IT into the curriculum, as necessary.
11. Monitor and evaluate progress at regular intervals
12. Use IT as a kit of tools for excellence.

For further exhibits produced by NCET - disseminating key issues affecting the integration of IT into the curriculum and for effective management of IT - see Appendix A pages 3 and 5. These exhibits summarise many of the IT learning issues explored so far and are worthy of inspection.

Finally, I would like to complete my IT learning policy investigations with an abstract obtained from the recently published 'Learning to Succeed', by the National Commission on Education⁴⁹ (NCE). It has some interesting and relevant points to make regarding IT policy on both initial teacher training⁵⁰ and staff INSET programmes.

⁴⁹A body that was setup totally independent from the usual government-sponsored education agencies. Consequently recommending an educational agenda independent of current government policy, [NCE, 1993].

⁵⁰This is highly relevant as I run an ITFM programme as an optional module as part of the Cert. Ed. (FE) programme on behalf of Exeter University, in addition to diverse INSET activities on behalf of my own college, which includes on-the-job active curriculum development between members of the IT Workshop practitioner team.

The NCE emphasises comments on policies fostering creativity and innovation with respect to IT teacher training, which are as follows:

"We are not satisfied that the quality or extent of provision of initial teacher training in IT meets current needs. Since June 1992 secondary teacher training has required only that teachers should by the end of their training to demonstrate ability to select and use appropriate resources, including IT! Given the need to prepare pupils for a world in which the use of IT is common place, this requirement is insufficient.

... We consider that the recommendations of the Trotter Report of 1989 provide a better basis for the teaching of IT. These require new teachers to be able:

- To make confident personal use of a range of software and IT appropriate to their subjects.
- To review critically the relevance of software and IT devices to their chosen studies, and judge potential value for use in the classroom.
- To make constructive use of IT in teaching, and prepare to put into effect schemes of work which incorporate uses of IT.
- To evaluate the ways in which use of IT changes the nature of teaching and learning.

... (these) IT considerations should be integrated into all general INSET. We make recommendations in Ch.14 about increased funding for teacher training; in part this should be used for improving training in IT. Teachers also need training and support to adapt successfully to FL, managing independent learning, involving people in the community and making full use of advanced technology." (p.103)

This would appear to concur with my findings mentioned from the DELTA report, as well as the NCET-Hopkins principles aimed at staff development.

In conclusion, IT as an educational tool provides new opportunities and challenges to experiment developmentally not only with new technology curriculum study areas, but also with the whole *learning delivery process* itself. This can be achieved via real-life testbed developments and evaluations of open-systems social learning scenarios.

CHAPTER 3 : SOL, Learning Conversations and Action Research

This chapter continues the investigation into the key fields of interest underpinning the theoretical framework of the action research. Chapter 2 covered issues relating to Further Education and associated applied research that affects the development of the IT Workshop. The underpinning issues covered in this chapter concentrate on Self-Organised Learning and Learning Conversations and how these ideas relate to the learning management policy of the IT Workshop. The last key field of inquiry looks at new paradigm approaches to social psychology research and how this can be integrated into a SOL-based action research agenda for this project.

3.1 Key fields of investigation : SOL and learning conversation theories adopted for this project

3.1.1 Introduction to SOL

Self-Organised Learning has so far been compared with ideas gleaned from other sources of inquiry. These diverse searches were initially explored relative to my first initial field of investigation and inquiry, i.e. FE and applied research issues. While many arguments developed were complementary to the idea of the Self-Organised Learner, the SOL philosophy itself was not fully explored, defined and delved into at those particular junctures.¹ The educational arguments identified did, however, possess a common theme and purpose with regard to the understanding of human learning.

¹This was to avoid confusion and distraction from the key educational domain arguments being made at the time, whilst nevertheless, making the necessary linkages and overlaps with SOL theories and suppositions.

The common theme suggests that it is individual persons that are doing the learning and that they all do it *differently* according to their own *unique set* of experiences and circumstances. Indeed, from all the FEU and other sources investigated, there was a common recognition of the importance of the individual learner. This individual learner assumption underpinned most of the OL/FL systems-based arguments. Reflective experiential learning capabilities were argued as a core personal management system underpinning the self-organised learner, enhancing the individual's life-long capacity to learn.

This personal management capability serves as a prior learning-to-learn qualification for the skills attributed to the autonomous learner. These 'skills' underpin a learner's potential ability to operate in an *educational delivery process* such as the open-systems social learning environment of the IT Workshop.

Because the IT Workshop represents a learning environment in the process of radical change, the philosophy of self-organised learning is very relevant towards developing a new learning policy in the areas of IT and Flexible Learning. Indeed, Harri-Augstein and Thomas describe Learning Conversations and the process of change² in the context of real-life *'habitats-in-change'*:-

" ..in the highly competitive and rapidly changing environments of today where often the only constant appears to be the process of change itself. The home, the workplace, the school, and all the multitude of situations in which we, as human beings, experience and act our lives are all habitats-in-change, demanding new levels of skill, competence and creativity."
(p.2)

²[Harri-Augstein & Thomas, 1991]

The key important question that I have reflected on is this:

What is self-organised learning, and the person-centred abilities that underpin - and are attributed to - the self-organised learner?

To answer this question meaningfully, I have decided to give some summative descriptions based on the original work and findings that have evolved from the CSHL at Brunel University over the last twenty-five years.

From the CSHL paper³, 'Self-Organised-Learning Environments for Skill, Competence and Creativity', we have several perspectives of what SOL is and is not:

What SOL is not:-

- an instructional (behaviourist-type) educational paradigm:

"Enabling someone to become self-organised at learning cannot be achieved through instruction. If this is attempted, the best that can be achieved is a successful submission to the process of being instructed. ..The worst is total dependency, alienation and even negatively valued learning."

- an unsupported discovery learning paradigm:

"To leave each person to discover how to become a S-O-Ler without support takes too long, many do not succeed and many only acquire a small part of their real capacity for learning."

³ A short paper only available from the CSHL, [Harri-Augstein & Thomas, 1979].

What SOL actually is:

- a personal learning system based on a conversational science paradigm:

"SOL provides a science of Human Learning, for understanding the deeply personal processes involved in becoming more fully functioning. Learners can become aware of themselves as 'modellers' of their own thoughts and feelings as they act in their world. Modelling their own system of meanings, they are able to elaborate these and act more sensitively, adaptively and effectively. The people-centred technology and methodology of the 'Learning Conversation' enables a heightening of awareness so that everyone can become 'expert' modellers of their own learning."

Harri-Augstein and Thomas from their book, 'Self-Organised Learning - Foundations of a conversational science for psychology', underpin these SOL premises and define human learning as:

" The construction and reconstruction, exchange and negotiation of significant, relevant and viable meanings." (p.2)

That implies that human learning is relative to an *individual person* who possesses a *unique* and self-organising *meaning system*. Thus, the self-organising learning perspective of personal autonomy is that this is only achievable through developing the individual's *meaning system* via strategies of *conversational management*. These conversational strategies represent the self-organising capability of the personal learner, i.e. one's 'Capacity-to-Learn'.⁴ Thus, the 'Self-Organised-Learner' possesses a set of self-sufficient - or autarkical - personal learning skills as part of his/her unique meaning system.

⁴See 'Learning Conversations', which describes the human capacity to learn in terms of 'performance scenarios' as a means of developing one's 'capacity for process' through personal change [Harri-Augstein & Thomas, 1991, p.82].

The personal skills underpinning the ability to make use of one's potential autarkical resources is determined by the degree to which a person can *manage/utilise* their *inner conversational processes*. Such a conversational individual 'C-indi' is therefore in charge of his/her own personal *system of meanings* (i.e. modelling, language, feeling-based and emotional skills etc.).

This uniquely determined and conversationally-based set of personal skills/qualities - *responsibly managed* from within the person - represents the Personal Management System (PMS) of an individual at some particular point in time. The PMS therefore represents the *quality* or *current state* of the self-organised learner. That implies a life-long state of personal learning development. In other words, all experiences throughout life are *episodes of personal learning*. This relates the self-organised learner's Capacity-to-Learn throughout life with personal development of his/her inner system of psychological processes or 'meaning-systems'.

The *meaning-systems*⁵ being personally *managed* are self-organised and internally negotiated (or conversationally construed) within the person. This is achieved via a self-rationalisation process that *actively* constructs, deconstructs and reconstructs one's own internal experiences as time-dependent anticipatory events.⁶

It is from such individually constructed events that *personal learning hypotheses* may be internally inferred.⁷

⁵Meaning-systems in the CSHL sense of the term. From 'Reflecting on structures of meaning - A Process of Learning-to-Learn' [Harri-Augstein, 1977], we have the idea of meaning operating as a reflexive psychic phenomenon. Enabled by 'external' *referents* 'internally' *inferred* via conversational tools such as the Personal Learning Biography, Repertory Grid, and Flow diagram. Meaning is considered as a multidimensional networking process. One's personally constructed meaning becomes '*understanding*', in the form of a prior-confirmed anticipatory hypothesis. From page 14, we have the flow-chart representation of meaning argued as: " ...multi-dimensional *relationships* between *units of meaning*, within a *chronological* or *time sequence*". Hence, an idea of *unitary items of meaning* existing as a *temporal state*, networked via other meanings in a complex multi-dimensional manner. Such that new *inferred-states* are developed sequentially relative to a person's chronology. On page 17 a reference is made to fig.(6), structures of meaning, where a *Net* is illustrated and argued as: " The criteria underlying the selection of structures will relate to the person's intentionality... ..the relationship between purpose and the structure of the display.. ..device can be very selective and refined... (ranging from) ...electronic flow diagrams.. (to more) ..open-ended devices, as in structures of meaning displayed in art.. (forms, where the) ..intentionality is more freely expressed. Each device may have a role to play within the conversational encounter."

⁶Leading to the idea of *constructive alternativism*, which George Kelly attributes to one's meaningful 'self-rationalisation' of real-life events, from which personal construct meanings are associatively derived and inferred from the comparing and construing of alternative ideas/concepts. These conceptual 'possessions' operate as a unique set of *personal resources* inferred from an *epistemological repertoire*. Kelly also purports the view that constructive alternativism: " ...might even be called a philosophical position of epistemological responsibility." [Bannister, 1970, p.4]

⁷Understanding of concepts and ideas is therefore argued as being subject to the *quality* of one's own *internal psychological relationships* (with one's own personal meaning networks constituting a facet of self) inferred from the *personal creative process*. Inferred constructs are '*freely*' established by an individual, as a form of *internalised personal relationship* attributed both to and between *experiential* events.

This *personal learning process* derives from the premises drawn from George Kelly's⁸ 'Personal Construct Theory', in which the fundamental postulate for personal construct psychology is proposed:

" A person's processes are psychologically channelized by the ways in which he anticipates events." (p.9)

From this postulate eleven corollaries are loosely inferred:

- " 1. Construction Corollary: A person anticipates events by construing their replications.
2. Individuality Corollary: Persons differ from each other in their construction of events.
3. Organization Corollary: Each person characteristically evolves, for his convenience in anticipating events, a construction system embracing ordinal relationships between constructs.
4. Dichotomy Corollary: A person's construction system is composed of a finite number of dichotomous constructs.
5. Choice Corollary: A person chooses for himself that alternative in a dichotomized construct which he anticipates the greater possibility for the elaboration of his system.
6. Range Corollary: A construct is convenient for the anticipation of a finite range of events only.
7. Experience Corollary: A person's construction system varies as he successively construes the replications of events.
8. Modulation Corollary: The variation in a person's construction system is limited by the permeability of the constructs within whose ranges of convenience the variants lie.
9. Fragmentation Corollary: A person may successively employ a variety of construction subsystems which are inferentially incompatible with each other.

⁸Obtained from Don Bannister's 'Perspectives in Personal Construct Theory', [Bannister, 1970]

10. Commonality Corollary: To the extent that one person employs a construction of experience which is similar to that employed by another, his processes are psychologically similar to those of the other person.

11. Sociality Corollary: To the extent that one person construes the construction processes of another, he may play a role in a social process involving the other person." (pp.11-24)

Kelly's theory of personal constructs adopts the metaphor that each of us lives and experience life as if we were personal scientists. His philosophical stance is underpinned by the belief that each person construes his or her existence in a unique way - comparing and constructing meaningful hypotheses as an inner experience. Kelly describes this process of construing as *constructive alternativism*. Indeed, Fransella and Dalton⁹ describe Kelly's notion that we are all personal scientists in terms of how we view our own understanding of the world:

" .. he (Kelly) asked what new insights we might get if we were to view each one of ourselves 'as if' we were all scientists. Not pushed and pulled by events but struggling to understand our world. Just as scientists do. .. each (person) looks at the world from their own, personal perspective. There are always alternative ways of looking at events." (pp.4-5)

⁹Taken from: 'Personal Construct Counselling in Action', [Fransella & Dalton, 1990]

Kelly uses his own concept of constructive alternativism to both propose and validate the paradigm of 'man' acting as a personal scientist¹⁰:

"The issue, then, is what this constructive alternative of seeing man as an incipient scientist will contribute at the present state in the search for a psychological understanding of him." (p.8)

People as 'personal scientists' therefore make sense of the world by living life in the *personal action research mode*, that is, constructing hypotheses from their own living experiences and then re-testing and revising these personal conceptual 'models' against future experience. Thus an individual revises his/her personal meaning system as a consequence of self-generated feedback. Good scientists will constantly revise their hypotheses in the light of new evidence; but bad scientists will tend to cling to an existing hypothesis, often denying new evidence and remaining within a closed system of meanings. This approach towards science agrees with Popper's stance that there is no absolute theory- and that theories require constant refutation.¹¹ Thomas Kuhn argues that major developments in science can be traced to a paradigm shift in thinking, where new paradigms supersede the old.¹² Thus the personal system attributed to learning and modelling of concepts and knowledge could be argued in terms of inner paradigm shifts of meaning - described by Kelly's alternative construction process of psychological events. This inner-learning constructivist process of the Kelly personal scientist is redefined in SOL terms as being the inner Learning Conversation.

¹⁰Don Bannister edited 'Perspectives in Personal Construct Theory', disseminating Kelly's and others interpretations of PCT [Bannister, 1970].

¹¹As promulgated by Karl Popper in 'Conjectures and Refutations - The Growth of Scientific Knowledge', [Popper, 1963].

¹² [Kuhn, 1970, p.49]

The Kelly personal scientist metaphor therefore becomes the Conversational Science paradigm that underpins the notion of the self-organised learner.

Kelly's fundamental postulate and corollaries will now be called upon to support the philosophical stances taken regarding arguments¹³ linking SOL and person-based educational psychology. The personal outcomes of being a self-organised learner are therefore different for each person according to Kelly's 'individuality corollary'. However, a *personal 'skills-based' curriculum*¹⁴ of being able to learn-how-to-learn can be achieved according to the following common qualities, as identified by Thomas and Harri-Augstein in 'Self-organised Learning':

"(The S-O-Ler is generally able:-)

1. to identify their practical, intellectual and emotional needs
2. to define their purposes more clearly
3. to achieve them more effectively ..." (p.3)

¹³I am not only accepting Kelly's postulate regarding PCT and the *personal-scientist* 'model-of-man' viewpoint, but wish to develop these ideas so as to *explain* my own '*modelled*' perspectives of SOL and learning conversations. As a human being I am allowed to construct personal hypotheses according to my own terms of reference; or so says Kelly: " All of this is to suggest that the psychological postures, mine included, that we accent with words, or dignify in philosophical terms, may be quite personal and may considerably antedate our verbal statements about them. There is every reason to dread bringing such nascent constructions to light, lest they betray us as foolish or even crazy." [Bannister, 1970, p.7] That implies a form of 'self-censorship' relative to external authority, thereby stultifying one's own creative processes.

¹⁴Bloom's: 'Taxonomy of educational objectives' [Bloom, 1956], provides for a personal learning taxonomy (summarised on page 201), classifying areas of knowledge, intellectual abilities and skills, application, analysis, synthesis, and evaluation. In my opinion, these all relate, as potential personal abilities/skills, to the development of one's individual PMS, as acquired capabilities. These skills can be regarded as a 'first-order' ideal (or personal) curriculum. All of Bloom's identified areas are 'content-free' and personal 'skills-based' in nature. Implying that traditional 'syllabus-content-styled' curricular objectives are of secondary or 'second-order' purpose relative to the individual skills needed to process understanding and inter-connectivity of ideas and concepts. A criticism of Bloom, however, is that his idea of 'personhood' falls down when it comes to his discrimination of cognitive and affective domains, as separate facets of the person. This is to be compared with the SOL holistic 'whole-person' concept of personhood and Kelly's individuality corollary.

Those are the desired qualities attributed to the self-organised learner, implying that a programme *developing people* with SOL C-indi skills, will lead them in the direction of *becoming* self-organised learners with an *ever-improving*, high quality, and freedom-enhancing PMS. Individuals thereby *achieve freedom* through personal enhancement of Kelly's Choice Corollary, acquiring personal abilities over time that meet the S-O-L *prior learning* policy requirement for successful practitioners of the IT Workshop. This suggests that successful learners working in the IT Workshop can develop individual IT skills more effectively if they operate within the conversational science paradigm of self-organised learning.

3.1.2 Processes defining SOL and Learning Conversations

❶ The Learning Conversation (LC)

☆ Conversational processes - Kelly constructs & Piagetian time

The idea of the learning conversation underpins the personal processes involved in being a self-organised learner. The inner learning conversation may be regarded as *meaningful self-communication*, assuming a 'Kelly-type' metaphor of a *psychological channelized internal route*. From 'Perspectives in PCT', we have:

" channelized - was chosen... ..to imply dynamics. ..What is to be explained is the direction of the processes, not the transformation of states into processes." (p.10)

Self-communication can therefore be regarded as a natural *reflexive tool* to aid one's SOL capabilities.

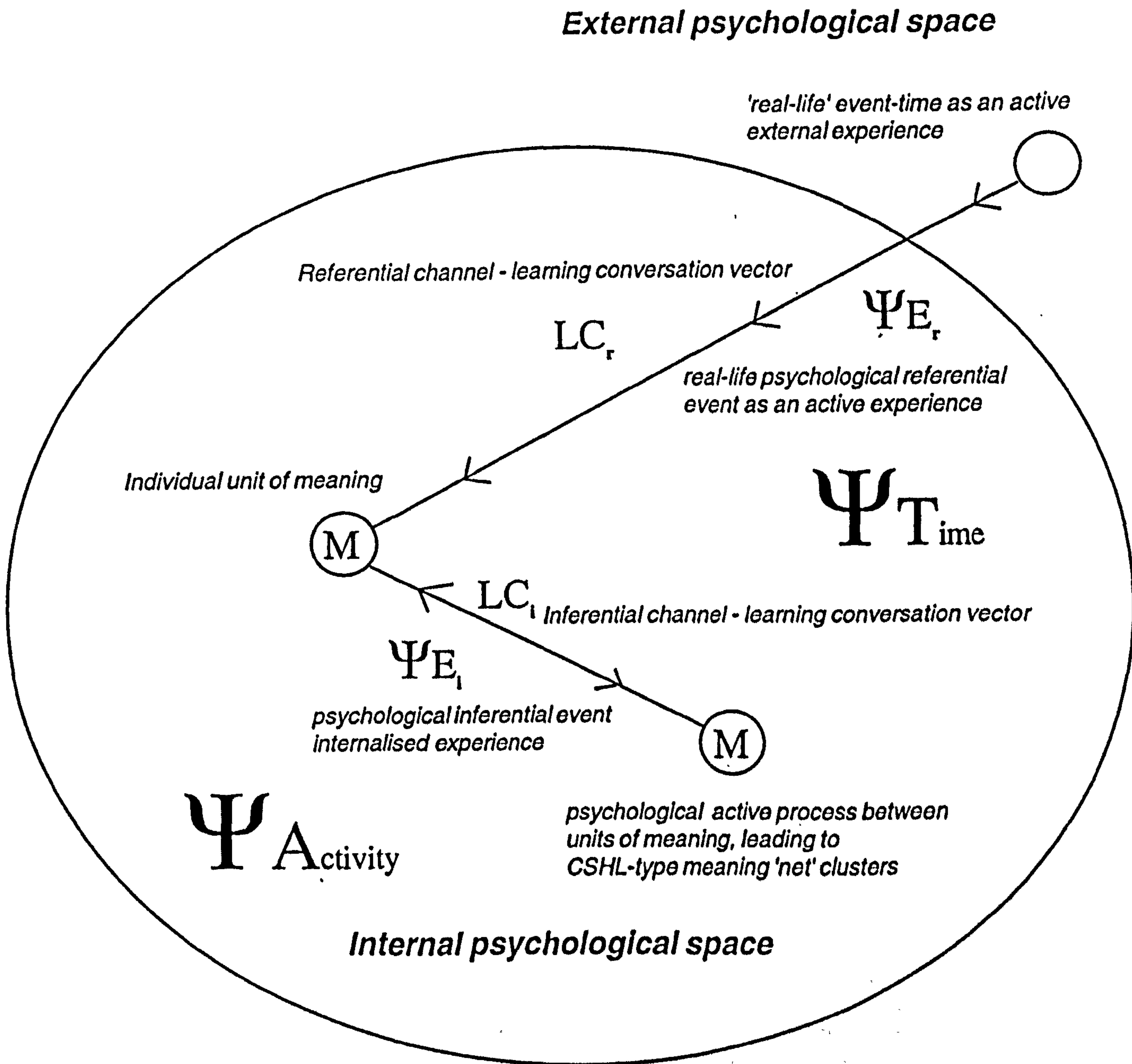
It is also a process which enables us to understand the *nature* of conversational learning as an organised and systematic form of reflection, from which personally enabling *conversational tools* might be developed. From Harri-Augstein & Thomas's book¹⁵, 'Learning Conversations', we have:

"The Learning Conversation and its reflective techniques offer tools for enriching those functional aspects of skill, competence and creativity, through which we achieve quality, personal fulfilment and, occasionally, joy. ...(the Learning Conversation) puts learners in conversation with themselves, but it also enables them to converse more effectively with .. (anyone else) it is a sustained activity creating an increasing awareness of the whole experiential process of learning. ...The process of SOL is itself conversational... (where learners) ...can reflect upon their experience, anticipate possibilities, act on the basis of these and reflect again upon each new experience." (p.3)

Thus, Learning Conversations (or LCs) appear to be self-organising, dynamic, and an activity-based process, managing one's own personal psychological system of thoughts, feelings,.. etc., as a set of experientially constructed events. This is supported by Kelly's fundamental PCT postulate, in which LCs can be envisioned as a person-centred *psychological means* by which *potential* constructive alternativist-type events might take place. Such an 'internalised event' might well be considered as a form of *psychological activity* relative to the person's own *frame of referential time*. It is considered that these psychological events are personally experienced as a 'Kelly-styled' form of construing, according to his ideas suggested in the eleven corollaries.

¹⁵ [Harri-Augstein & Thomas, 1991]

Fig.(3.1) The Inferential-Referential Conversational Learning Process



Psychological 'Event-Time' Active Processes Ψ -A . Represented by the dynamic Kelly *constructive alternativism* process of 'channelized' *inferential-referential* LC vectors.

These psychological Kelly-type events (or Ψ -Events) relative to personal activity (or Ψ -Activity) and time (or Ψ -Time) have also been argued by Piaget as a form of 'psychological velocity'. This infers that the LC could be considered as a Kelly-type 'channelized' *dynamic vector*. The LC operating as a 'conversational vector' describing the Ψ -Active processes of internalised 'constructivist' events [see fig.(3.1)]. These processes occur relative to one's own *channelized* 'referential-inferential' Ψ -Event-Time frame of reference.¹⁶

This personal 'event-time' stance can also be supported from the valuable epistemological studies of Piaget. In his later work¹⁷ 'The Child's Conception of Time', Piaget proposes a number of theories discriminating between physical or real-time¹⁸, and that of Ψ -Time, which I forthwith refer to as a Piagetian concept, that is, Piagetian time is attributed as ' Ψ -Time'.

¹⁶Inferred constructions of perceived reality as an internalised event (ΨE_i) from referential experiential events (ΨE_r) relative to one's own psychological perception of time, i.e. *referential-inferential* psychological event-time argument, inferred by linking the studies of Kelly and Piaget [see fig.(3.1)] to SOL structures of meaning. From: 'Reflecting on structures of meaning...' page 17, we have: " One learns to learn not only in the context of one's personal process but also with reference to the processes of others." That implies two contexts or facets of the LC as an internalised or 'inferred' learning experience process, and as a 'referred' learning experience relative to one's 'internal-external' process with the outside world.

¹⁷Piaget's investigations [Piaget, 1969] of Ψ -Time were *inspired* by empirical studies identifying children's developmental learning processes. As a consequence of his *real-life* empirical studies of *human-child development*, Piaget has provided us with his inferred rationalisation of the *epistemology of Ψ -Time* relative to *developmental human learning*.

¹⁸Real time is defined as "the concept of the duration between events or of any process", from the OUP encyclopaedia 1985. Thus, real-space is conceived in terms of 'event-time' relationships. Piagetian time is relative to a person's psychological space, which implies that psychological space has its own form of 'event-time' relationship relative to personal activity. This makes sense of psychological activities such as dreaming. From the Kelly-Piaget argument, dreams can be understood as LC meaning nets formed in internal psychological space only. Thus, dreams operate totally within internal psychological space and time, which explains how some of the more bizarre time-related experiences might occur in this 'closed' personal world, i.e. when Piagetian relativistic time is no longer being experienced.

Piaget discusses not only the concept of time as a phenomenon, but also that time relates to co-ordinated motions at different velocities:

"The construction of time proper therefore begins with the correlation of velocities, be it in the case of human activity or of external motion."
(p.277)

Piaget elaborates the ideas behind psychological velocity, activity and time:

" ...to correlate the succession or duration of particular actions with spatial displacements... ... psychological time ..(is equivalent to).. freeing oneself from the present to transcending space by a mobile effort, i.e. by reversible operations. To follow time along the simple and irreversible course of events is simply to live it without taking cognizance of it. To know it (Ψ -Time), on the other hand, is to retrace in either direction. Rational time (or Ψ -Time) is therefore reversible, whereas empirical (or real) time is irreversible."
(pp.277-279)

Finally, *Piagetian time* is seen as both a *qualitative* and *relativistic* process:

" Relativistic time is.. (at the humblest level) ..the construction of physical and psychological time, a principle that, as we saw, lies at the very root of time conceptions of very young children ...(indeed all persons!)." (p.279)

Thus Piagetian ' Ψ -Time' has a number of implied corollaries:

1. That Ψ -Time-Events are relative to real/physical Time-Events, i.e. that internalised psychological activities constitute a Ψ -Time-Event.
2. That Ψ -Time is related to a form of psychological velocity (Ψ -Velocity) as a metaphor of human activity.
3. That Ψ -Time is seen as autonomous to the person, implying that it is existential in nature or within the bounds of 'free-will', hence Piaget's idea of "freeing oneself" as a personally decided effort to transcend real-time events.
4. That Ψ -Time can be explained as 'connected' to an action-event *personal construction of reality*, (i.e. Ψ -Time is a function of Ψ -Activity describing a Ψ -Event, contributing in nature towards a personal construct process).
5. That Ψ -Time is reversible and dimensionally complex.¹⁹

From the previous Piagetian, Kelly, Rogers, Harri-Augstein & Thomas perspectives, one can make an argument relating the skill of *personal time management* as a fundamental facet of an individual's PMS, thereby underpinning his or her SOL capabilities:

That Personal Time Management represents the degree of personal freedom capability, allowing control of one's own active construing of Ψ -Events relative to one's own Ψ -Time displacements.

¹⁹From 'SOL Structures of Meaning', we have the argument that meaning systems are immensely complex, and that most of us are only partially aware of this personal process: "Often we are only partially aware of this vast and complex system of meaning within which we operate." [Harri-Augstein, 1977, p.3]

Thus, development of a person's psychological processes as regards time-management through 'reflexive' conversational tools represents a *key design attribute* towards the *specification* of human *learning systems* and resource-based curriculum solutions.

Such reflexive conversational tools are considered by Harri-Augstein and Thomas as a form of 'psychic mirror'. From 'Reflecting on structures of meaning...', they propose a design specification for enabling the quality of internalised active psychological events:

" ...the necessary attributes of a psychic mirror.. (device, are):

1. exhibiting meaning as part of the hierarchically organised system;
2. tapping personal meaning in all its fullest aspects, as experienced by the individual;
3. enabling the individual to become aware of the intentionality which influences thought, feeling and action;
4. allowing the exploration of meaning in its most bizarre or idiosyncratic form;
5. realising the anticipatory nature of the construing process." (p.9)

☆ Conversational processes - Human Learning Interfaces

The arguments developed so far support the case of learning conversations being interpreted as complex *channelized inferential-referential learning processes*. These processes relate to one's own internal stimuli of psychological reflection that can be understood as *active states of meaning*. This meaning system can be understood as *self-constructed reflexive-experiential psychic-events*. These psychic-events happen within one's own *internal space* and existential time.



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HUMAN LEARNING INTERFACES

To develop the relationships between the C-indi, T-C and the Group in terms of an l.r.i. investigating the role of p.l.c.'s and g.l.c.'s as part of the conversational methodology between these differential relationships.

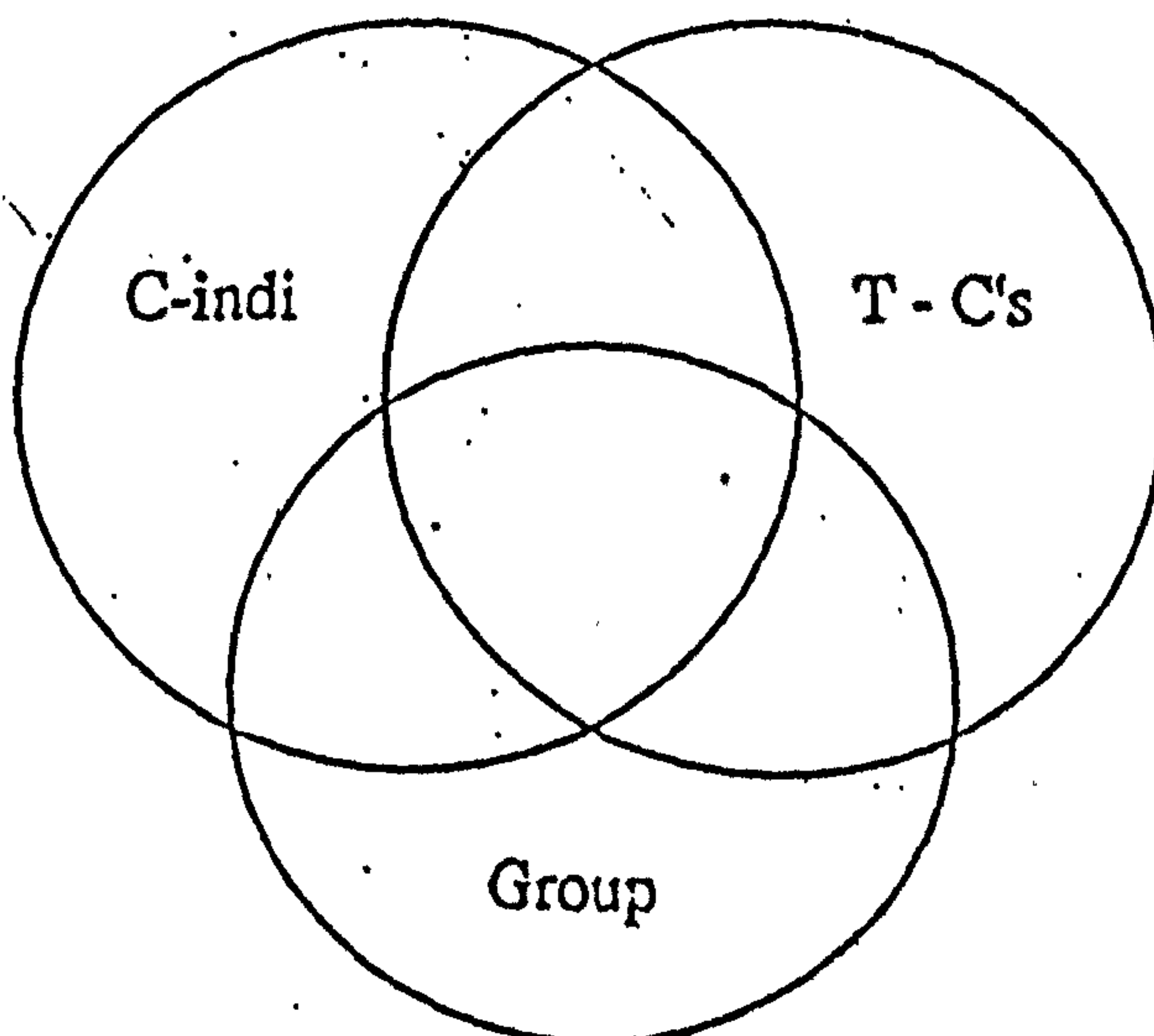


fig.(3.2) Human Learning Interfaces as a means of discrimination between modes of Group Learning Interaction

From these and earlier arguments of group theory relative to social interaction, I propose to differentiate between a person interacting with his/her own social system²⁰ and those of other social beings. Thus, society based interactions might be regarded as real-life *Rogerian social relationships* between a C-indi, his T-C's and wider societal groups (primary and secondary group learning associations).

To help differentiate between these three main social categories, I would like to model them in terms of Human Learning Interfaces (HLIs). The HLI model allows for identifiable discrimination of '*person to tutor to group*' interactions as separate sub-set domains - see fig.(3.2). This project proposes to develop and enable these group-based relationships via the use of reflexive learning conversations. This is intended to happen through formally negotiated PLCs as a form of *personal resource enablement*, coupled with informal *social resource development* via free-association GLCs. Other heuristic social resources relative to the individual learner are regarded as an external Human Resource Interface (HRI). C-indi PMS/SOL resources will be identified as an internal Personal Resource Interface (PRI).²¹

²⁰As also proposed by Miller Mair in his article on the 'Community of self', [Mair, 1977].

²¹The HRI can therefore be linked to Kelly's sociality corollary as a means of 'social-learning' between social beings, leading to the GLC argument. The PRI, however, links to Polanyi's idea of 'tacit-learning' [Polanyi, 1967]. Whereby, implicit and explicit learning is related to *two aspects* of conversational learning by Harri-Augstein & Thomas [Harri-Augstein & Thomas, 1991, pp.58-59]:- "Even within this person-sensitive technology, much of the psychological process of meaning construction remains seemingly unrevealed because it is only partially expressed in words and symbols. Polanyi comes closest to explaining this in his formulation of tacit knowing. We conceive of *two separable aspects of conversational learning* which appear to go on in parallel. One is the *external exchange* between the learner and their resource; the other is the learner's *inner exchange* with themselves. This is the hidden resource which feeds the outer conversation." Hence, a parallel exchange of meaning between inner and outer LC's, as depicted in fig.(3.1) as an inferential-referential conversational learning process - thereby supporting the idea of a PRI managed through inner conversational processes of meaning exchange.

fig.(3.3) The Personal Resource Interface as a means of describing internal human learning processes

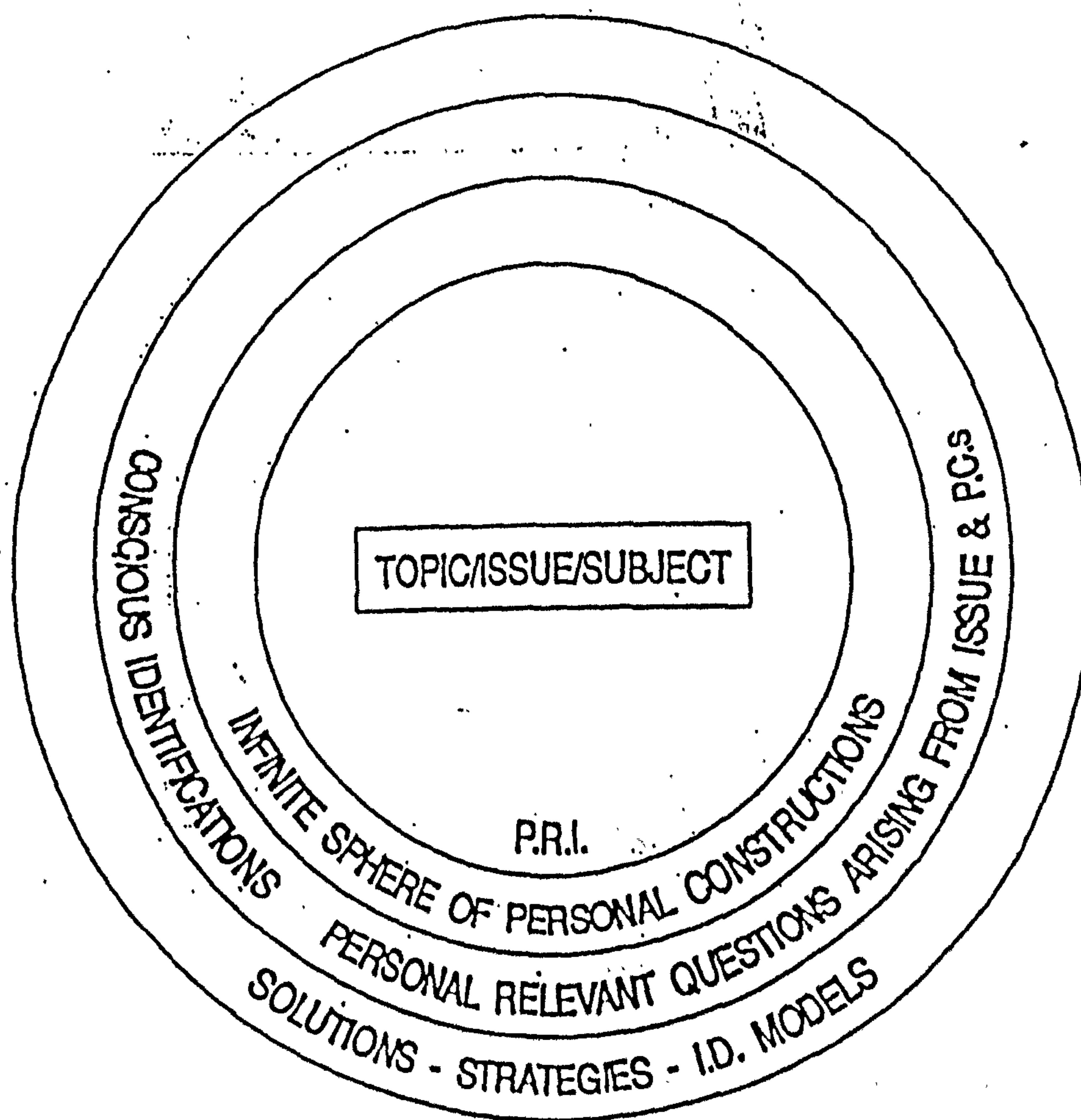
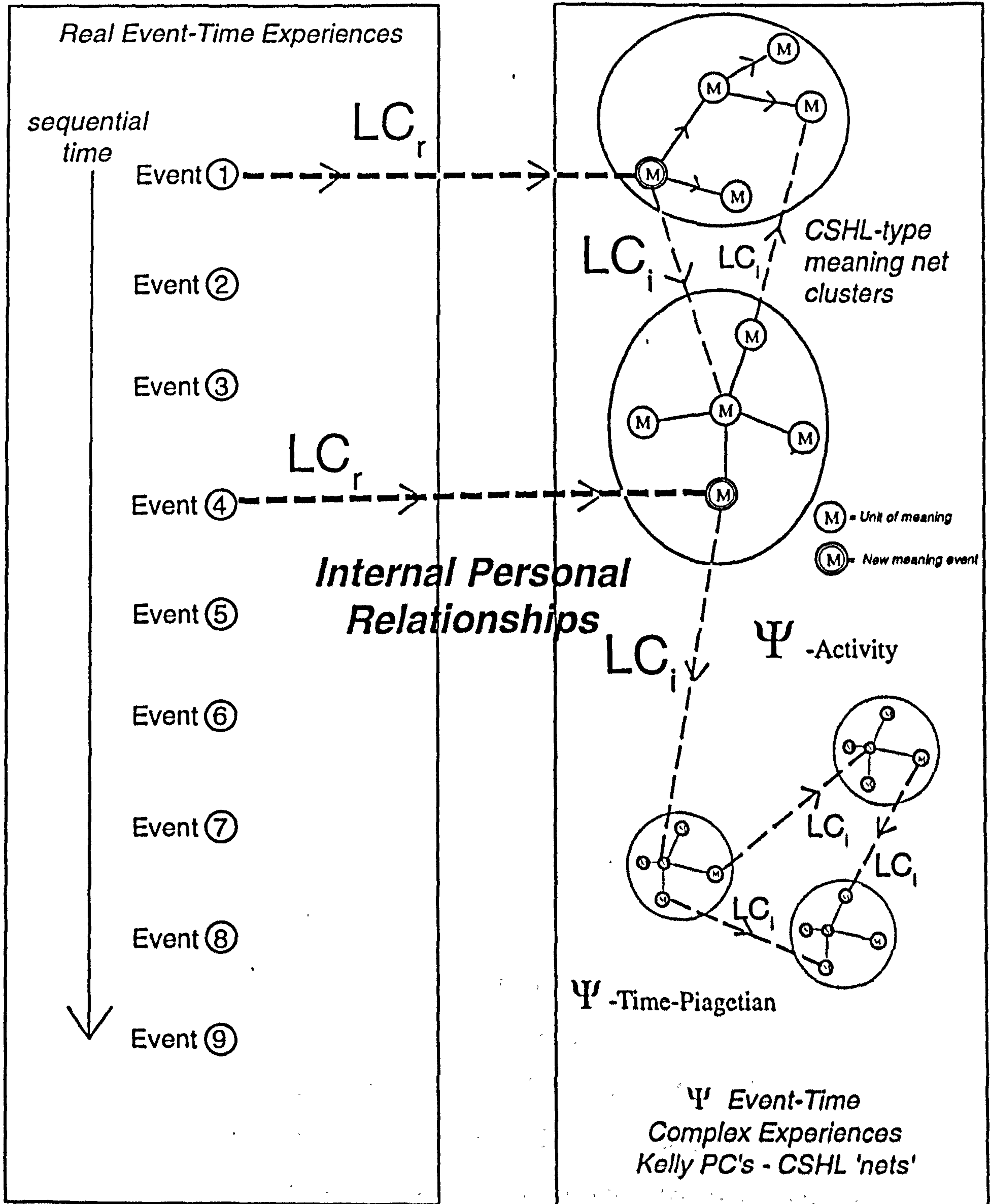


fig.(3.4) The Autarkical Action-Support Model of PMS processes governing SOL



External 'referred' process

Internal 'inferred' process

Actions - Physical

Support - Psychological

Thus, HLIs can be understood in terms of *social group-interactions* relative to HRI opportunities, and *personal self-interactions* relative to one's PRI capabilities. These PRI capabilities are largely governed by the quality of one's PMS/SOL reflexive conversational skills. Fig.(3.3) shows a proposed model of the PRI that illustrates personal interaction compared with one's Kelly-based personal construct opportunities. The model is related to solving some well-focused and self-organised conceptual task.

I would like to try and visualise these internal processes with a little more understanding, so that a C-indi's personal resources can be understood as both self-organised and managed via the *reflexive process* of a learning conversation. I therefore propose another model, differentiating between real-time *external active-behavioural processes* and Ψ -Time *internal active-support processes*. From fig.(3.4): 'The Autarkical Action - Support Model of PMS processes governing SOL', we see that *real-time active processes* become manifest as *external social needs physical events*, i.e. behavioural events as social experiential outcomes.

These outcome behaviour-events are controlled by a LC referring to one's Ψ -support system of *prior learning experiences*. These reconstructed meaning nets are dynamically formed as *conceptual information* which has been construed referentially and internally inferred. The capacity of the referential LC to *address one's own system of meaning* as an inferred LC is determined by the current state of one's SOL capabilities.

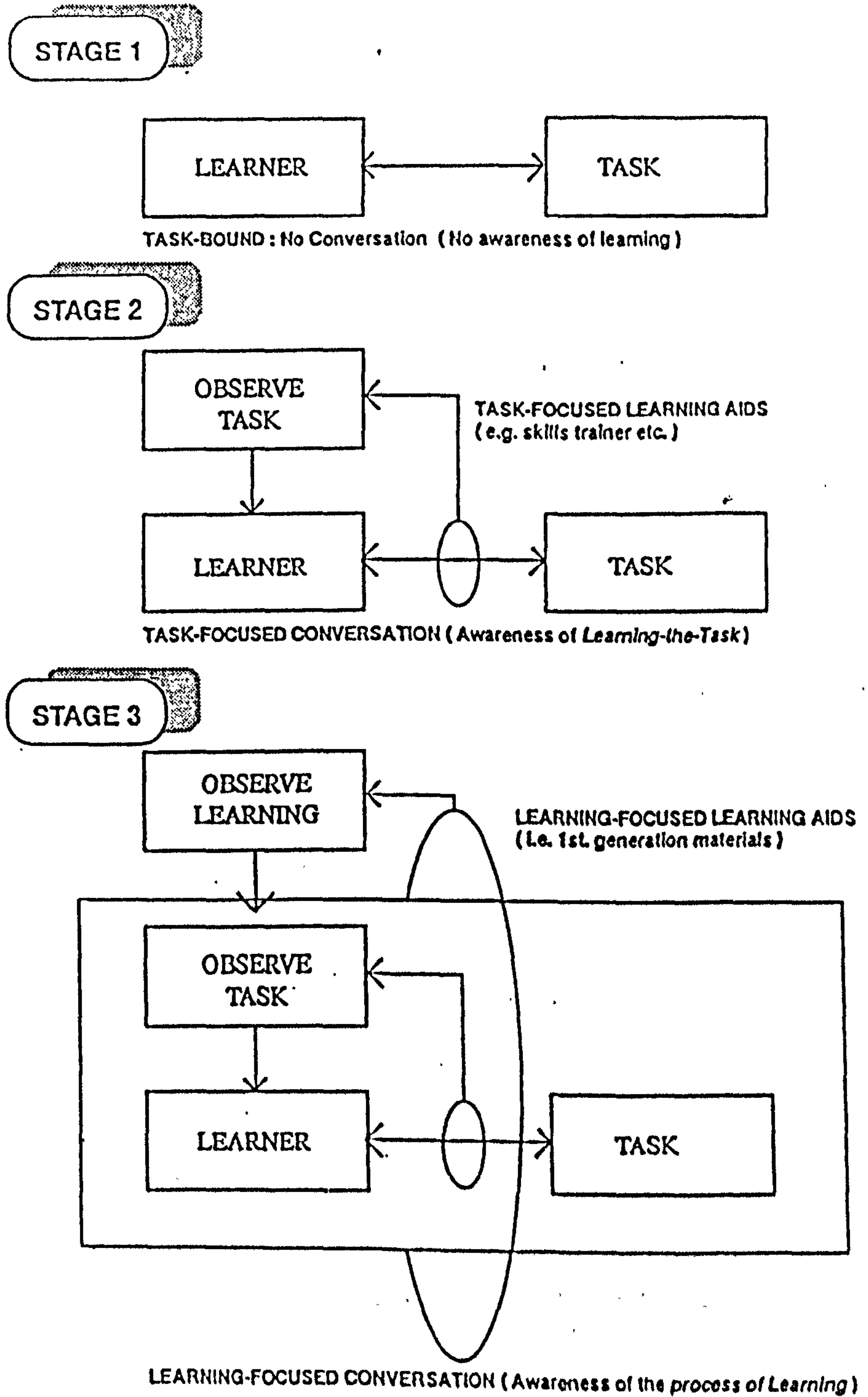
Thus, the inner LC is a *complex construing process* relating referential real-time events and inferential Ψ -Time events. External behaviour is considered as being determined by the individual's own *autarkical processes* that are a complex set of *meaningful learning nets* related to *both* referential and inferential stimuli.

If this is the case, then Piagetian personal time is existential in nature and the internal stimuli of Ψ -Active events are free-willed, acting as a form of Rogerian-Kelly *holistic inner relationships*, leading to the propositions that:

- *LCs are a form of psychic activity, which is equivalent to the rate of change of Kelly-constructivist events within existential time.*
- *Behaviour is the real-time physical outcomes of a person, manifesting themselves from autonomously controlled self-organised psychic internal events.*
- *Reflection is a personal self-communication process based on construed meaning nets, constituting a form of self-relationship via one's referential-inferential learning conversations.*

The above assertions are my own models, linking mainly the ideas of SOL, Kelly, Rogers and Piaget. As they are my own constructed models, they are subject to deconstruction and reconstruction at any future time, by either myself or anyone else. Kelly has taught me that there is no such thing as an absolutely true model, especially those artificially constructed. This suggests that all person-made models and theories are in some way limited.

fig.(3.5) The Three Stages towards Self-Organised Learning (SOL) Awareness - CSHL[©]



② Three stages of personal awareness

I have investigated the characteristics and processes underpinning the idea of the learning conversation as a reflexive tool linked to one's personal reflection capability. SOL links the nature of one's reflective construing potential to three stages of personal awareness.

The *learner characteristics* appertaining to SOL are represented by three *developmental stages of awareness*, see fig.(3.5).²² From the CSHL paper, 'SOL Environments for skill, competence and creativity', we have:

"The move from Other-Organised-Learning to SOL involves:-

- Stage 1:- Task-Bound Awareness

... is almost totally non-conscious - we just do it.

- Stage 2:- Task-Focused Awareness

... the robotish activity is moved into an awareness of how the task is done and of the thoughts and feelings relating to it. This enables the learner to experiment with change in the ways in which a task is performed.

- Stage 3:- Learning-Focused Awareness

... the evidences accruing from stage 2 become the source for reflecting upon how we learn and how we think and feel about this process.

²²Reproduced by kind permission of the authors from figure 11 in 'Learning Conversations', [Harri-Augstein & Thomas, 1991, p.96]. Harri-Augstein & Thomas discuss 'Awareness and the Learning Conversation' on pages 97 to 99 in 'Learning Conversations'. 'SOL Environments for skill, competence and creativity' is only available as a paper from the CSHL.

SOL involves an awareness of all three stages, as ongoing activities...
(and) ... S-O-Lers who act in this way can be identified by:-

- accepting responsibility for their own learning
- (ability) to appreciate the dynamic nature of the learning process
- learn how to learn
- re-defining SOL in their own terms
- improvement in their capacity to learn."

Thus, SOL processes offer individuals the opportunity to develop their reflexive systems using task-focused and learning-focused learning aids. Such learning aids are designed to raise one's SOL capabilities through this process of *awareness management*. The question I have therefore reflected upon involves the relationships between: awareness, consciousness, cognition and 'task-oriented' activity - as a means of understanding how these ideas relate to learning.

Given the general definitions²³ of these concepts we have:

- Cognition - representing mental processes, such as thinking, conceiving , reasoning.
- Consciousness - representing the mental state of an individual's capacity for: sensation, perception, feelings, emotions, thoughts, ideas.
- Awareness - representing the personal state of being cognisant or conscious of something.

Thus, consciousness is a state of being personally aware and capable of governing all one's cognitive processes.

²³From Reber [Reber, 1985] we have 'accepted' definitions of terms such as awareness, consciousness and cognition - from which SOL *awareness management* can be argued as an *autocognitive* process of the C-indi.

From these definitions and the previous arguments in support of autonomy as a personally managed process, it would appear that learning conversations are an *autocognitive* process. Therefore, SOL awareness management can be argued as development of one's autocognitive capabilities. These autocognitive capabilities represent the state of the S-O-Ler's Personal Management System.

As part of developing these autocognitive skills, the SOL three stages towards Self-Organised Learning use a systems-based technique of invoking an awareness-management heuristic relative to some task.

These self-organising techniques relate to the associated field of cybernetics. Investigators²⁴ in this field have proposed the idea of control systems relative to both persons (as a psychological or P-indi process) and mechanisms (as an active-mechanical or M-indi process).

In Gordon Pask's proposed Conversation Theory, consciousness is seen as a conversational process linked to 'circularity' - as a self referential process - within the cognitive domain. Pask's cybernetic conversational domain of the P-indi is seen as an active self-organized process which is reflexive in nature. This cybernetic P-indi and Conversational Theory viewpoint relates closely to the SOL C-indi and Learning Conversation perspective.

In relation to task-based learning, further support for SOL 'awareness-management' techniques can be found in the field of Goal-Directed Action - or GDA. GDA in Rom Harré's and Mario Von Cranach's

²⁴See Bernard Scott's summative articles disseminating Pask's work in the International Cybernetics Newsletter No.'s 17 & 24 [Scott, 1980 & 1982]

book²⁵, 'The Analysis of Action', elucidates a complex theory linking task-oriented action as a form of goal directed social control, relative to a person's internal and external operating mechanisms.

GDA is defined as:

1. "GDA refers to an actor's goal-directed, planned, intended and conscious behaviour, which is socially directed (or controlled).
2. An 'act' is a unit of (goal-directed) action, which is located in a specific social setting ('situatedness') and can be characterized by its directedness towards a distinct goal.
3. GDA is a complex behavioural system." (p.36)

The 'external-internal' social control of acts is described as:

"Theories of social control are mainly focused on two kinds of operating mechanisms: first, external control by influencing the course of action through environmental devices and exercise of power. Second, internal control by implanting into the individual (in the course of socialization) cognitive and motivational/emotional structures (e.g. scripts, rules, knowledge, values, needs etc.), which guide his action."
(p.42)

GDA is also argued as systematic organisation of cognitive processes along sequential and hierarchical lines, implying a systems-based cybernetic approach :

"GDA-related cognitions differ in their conscious representation.. ..the distribution of differently represented cognitions is systematically related to patterns of sequential and hierarchical GDA organisation."
(p.59)

²⁵ [Harré & Cranach, 1982]

In a similar vein to the SOL philosophy of PLBs, Harré & Cranach argue for *personal biographies to account for one's actions*:

"The autobiographical point has been much emphasized by J.-P. de Wade in his pioneering studies of the way people can be assisted to formulate very detailed accounts of their own life-courses. ..Such a view seems to presuppose a concept of the life-long development of action." (p.391)

Finally, Stafford Beer in his book²⁶: 'Designing Freedom', views system-based controls as a means to enable freedom. He extols the use of proper planning systems to *manage personal freedom* both effectively and efficiently:

"We have to become efficient in order to solve our problems; and we have to accept the threat to freedom that this entails - and handle it. ..Planning is a variety attenuator.. (but) ..the act of planning does not rob us of free will. .. Planning should be continuous and adaptive. Because it (i.e. planning) means that the future is something we use our freedom to determine". (pp.89-91)

From all these sources we can sum up as follows:

- The three stages of SOL personal awareness is a conversational learning process enabling the autocognizance capabilities of the C-indi.
- These three stages represent a systems-based technique involving awareness management reflections as a heuristic relative to some task-oriented goal.
- The self-organised nature of such an activity relates the C-indi S-O-Ler to cybernetic Conversation Theory - hence similar to Pask's P-indi reflexive process.

²⁶ [Beer, 1974]

- *Task-based learning awarenesses* also relates to Harré's & Cranach's philosophy of 'Goal Directed Activity', which links the cybernetic *systematic techniques of planning* to the person's internal conscious system of *cognitive and motivational/emotional structures* and external *environmental controls*.
- *Evaluation and control* of one's own awareness relative to task or GDA can be recorded via *autobiographical accounts* - similar in nature to the SOL Personal Learning Biography.

To enable task-based awareness of learners following IT GDAs in the IT Workshop, I propose to use personal active logs. These are intended to capture the learner's autobiographical learning processes relative to the task - i.e. a *task-oriented conversational account*.

To both capture and enable the learner to observe his/her own learning awarenesses relative to tasks achieved, I propose to use a Personal Review Log - i.e. a *learning conversational account*.

Both logs will be integrated into the Personal Learning Contract learning-shell as part of the learner's personal learning plan, operating as a PLC systems-management process.

③ The Personal Learning Contract (PLC)

Leading on from the three stages of personal awareness, SOL processes consider ways of managing personal reflection. These involve P-S-O-R and MAR⁴S conversational learning systems. The PSOR represents components of the PLC. From: 'Learning Conversations'²⁷, we have:

Purpose - P :

Negotiated to give direction to the active intentionality of any learning tasks.

Strategy - S :

Negotiation of a flexible repertoire of tactics and strategies to meet personal needs.

Outcome - O :

The results of any personal learning achieved and accredited by the learner him/her self. The learner is encouraged to be self-critical and evaluate one's own experiences of purposes and strategies as a means of determining personal effectiveness.

Review - R :

Review involves appraisal of the whole learning process, enabling the learner to analyse and be judgmental about his/her own strengths and weaknesses.

²⁷ [Harri-Augstein & Thomas, 1991, pp. 150-156]. PSOR, MAR⁴S and Systems 7 quotations are extensively reproduced by kind permission of the original authors. These procedures form a major part of the underpinning theory related to my action research development.

The simple algorithm for the whole PLC process is governed by the following:

- T* *Topic negotiation*
- T* *Tasks relative to topic*
- P* *Specific purposes relative to the task*
- S* *Strategy for achieving purposes*
- O* *Outcomes, anticipated and actual*
- R* *Reviewing criteria applied to any outcomes*
- R* *Reviewing this cyclic process as a whole.*

The five key activities of the PLC are:

- 1. negotiating a learning activity prior to the event*
- 2. execution in an actual scenario*
- 3. self-debrief of 'actions' experienced*
- 4. review of PLC by comparison and re-negotiation of (1)*
- 5. self-diagnosis of learning strengths and weaknesses leading to a new cycle of the PLC.*

The PLC heuristic is also underpinned by the MAR⁴S process, both during and after the task-oriented programme of activities. MAR⁴S stands for:

- M - monitor: self-observation and recording of activities*
- A - analyse: re-run, record and reconstruct the event*
- R - record: summarise experiences on a personal record for future reconstruction of one's intentions*
- R - reconstruct: revise and update experience including evidences un-captured during original monitoring phase*

- R - reflect: evaluate original experience through reconstruction and comparison with original intentionality, highlighting problems, needs etc.*
- R - re-view: deconstruct and reconstruct original model, so as to understand the learning events/experience more meaningfully.*
- S - spiral: Repeat the cycle for another event/task.*

The MAR⁴S heuristic therefore describes how the quality of the S-O-L conversational process can be developed by the individual learner as a personal 'meaning-as-modelling' tool.²⁸ The MAR⁴S heuristic is employed to enable the conversational process; I intend to use it for the benefit of other learners in the IT Workshop and for myself during the course of my action research activities.

The MAR⁴S and PSOR heuristics are employed by the learning coach tutor to help manage the learning conversation with the learner. This conversation constitutes a dynamic process dialogue, cybernetic in nature, but Rogerian in terms of the psycho-social relationship developed between tutor and learner.

The basic aim of the tutor - in the rôle of the learning coach - is to enable the learner to articulate the learning experience via the basic skills of monitoring, analysing and recording. This will enable the learner to control their own learning.

The relationship of the tutor as a learning coach to the learner is crucial. 'Learning Conversations' extols the virtues of developing mutual trust and 'buffering'. That implies that the tutor must show unconditional positive regard and empathy towards the learner.

²⁸See 'Meaning as modelling', in Learning Conversations, [Harri-Augstein & Thomas, 1991, pp.79-80]

Such a 'Rogerian therapy' approach leads to the argument that the primary rôle of the learning coach tutor is that of a *learning therapist*. The relationship therapeutically enables SOL skills and practice through appropriate counselling and use of conversational procedures such as the PLC. This implies the need for an individual tutorial component to the ITFM course programme, operating as the five categorised rôles already listed in section 2.2.5, as well as that of the PLC learning coach.

In conclusion, the PLC tutorial attempts to cover the following:

- *A conversational cycle*, leading the learner to formulate a series of PLC's. After each attempt is made, a *systematic review* leads the learner to reflect upon their learning competence.
- Conversational activities designed to enable learners to achieve a *greater capacity* for learning - employing both the MAR⁴S and PSOR heuristic within the PLC conversational process.
- *Life and relevance conversations* to overcome the problems of those learners *lacking in motivation*. Long-term goals need to be identified, so that *short-term tasks* can be negotiated - i.e. the life-relevance conversation.
- The learning coach - or tutor - monitors the whole PLC process, in order to guide the real-time interactions with the learner.
- *Reflective learning tools* are recruited into the LC - depending on the nature of each unique application.

④ The Personal Learning Biography (PLB)

The Personal Learning Biography (or PLB) is a free form of self-analysis, allowing one to manage conversationally one's own awarenesses of learning. Thus, the S-O-L PLB serves as a useful self-observational process from which to manage one's own personal learning development. The PLB therefore acts as a personal management tool from which to manage both personal and organisational learning development. Harri-Augstein and Thomas describe²⁹ the PLB in terms of managing Learning Events:

" This (exhibit of the PLB) uses a diary of Learning Events as a sequential basis against which to plot changes. These changes are ..experiential and ..behavioural. " (p.250)

The PLB process be employed as a staff development activity within which the S-O-L environment can be both driven and managed. In the context of the IT Workshop development, I will use the S-O-L PLB data-capture record exhibit from 'Learning Conversations' (fig.(30) p.249). This will be used as an optional project management tool with a number of ITFM Cert. Ed. teacher trainers. In my own case, I will use the PLB concept of recording sequential Learning Events to identify learning episodes that will be data-captured and conversationally analysed using 'time-lines' and Talkback records (see exhibits in chapter 4 and chapter 6 time-line evaluations in section 6.4).

²⁹ [Harri-Augstein & Thomas, 1991, pp.248-251]

⑤ The 'Systems 7' S-O-L environment

Systems 7 was briefly introduced in chapter 1 as a means of designing a management of learning policy for the organisation of the IT Workshop. Figure (1.4) illustrates the 'seven systems' that can be applied to the management of learning for any organisation. It is worth pointing out that this model applies equally well to both learning organisations and one's self. In Harri-Augstein and Thomas's 'Learning Conversations', Systems 7 is considered from both axiomatic perspectives. They describe it as a "*community of selves*", when seen relative to one's personal learning organisation.

All the rôles constitute the personal SOL environment³⁰, within which:

"Systems 7 offers the person a content-independent system through which to become their own conversational support system". (p.233)

However, I have applied Systems 7 as a *conversational blueprint* relative to the learning organisation of my IT Workshop. Systems 7 was used as a cybernetic-styled planning tool, with which to identify and interpret the initial learning needs and purposes of human support systems in the IT Workshop.

From:- 'Learning Conversations'³¹, Systems 7 can be summarised as follows:

- There are five 'nodes' and seven 'systems'. The nodes represent the domain resources and personnel. The systems are the underlying conversations - between nodes according to MAR⁴S - stimulating self-organisation within the domain.

³⁰ [Harri-Augstein & Thomas, 1991].

³¹ [Harri-Augstein & Thomas, 1991, pp. 215-234]

- The five nodes, relative to my action research project, are envisaged as being:
 1. The IT Learning Domain itself - i.e. IT Workshop environment;
 2. Everyone in it as learners - IT domain staff and students;
 3. The Learning Coach as a SOL core-skills enabler - IT tutor rôle;
 4. The Task Supervisor or Domain Experts:- responsible for domain learning opportunities and IT practitioner team responsibilities, i.e. Generic IT Consultancy;
 5. The Learning Manager - as overall domain creator and co-ordinator, i.e. IT Workshop manager responsible for conversational learning across entire team via congruent relationships.

- The seven *conversational* systems are anticipated as:
 1. The Learning Domain - i.e. IT Workshop as *FL social* centre;
 2. The IT Workshop Learners *reflecting* upon their IT learning;
 3. Individual *tutorials* with IT tutor as learning coach/mentor;
 4. Development of learning opportunities in the IT Workshop, i.e. *human* and courseware resources to enable both SOL and IT skills using FL techniques applied to a *conversational* paradigm;
 5. Practical learning opportunities satisfying the needs of both IT task supervisor and learning coach rôles are *evaluated* relative to the 'horizons of learning' that meet the aspirations of both learner and learning manager.
 6. The learning manager's overall co-ordinating rôle relative to systems 1 to 5. This on-going *developmental conversation* is assumed as my own rôle, because I am acting in a dual capacity as both SOL action researcher and IT Workshop manager.

7. The final conversational rôle is that of learning director, responsible for the management, implementation and development of the overall domain learning policy. This policy governs the FL/SOL purposes that are to be delivered within the IT practical learning systems adopted - also my rôle, but shared with the college FL co-ordinator. The Learning Policy Committee is the FL steering group comprising the FL co-ordinator and three core-workshop managers, including myself.

The unique organisational practice and interpretation of Systems 7 relative to the IT Workshop project is covered in chapter 4, where it is shown how this defines the SOL management of learning practice, which is achieved through the integration of SOL into the ITFM course programmes as a means of enabling the 'life-relevance' heuristic.

3.1.3 Conversational Tools (CTs) to enable SOL

❶ What are Conversational Learning Tools?

In the last section we have covered the key processes defining SOL. From these processes a functional taxonomy can be defined as part of the design criteria underpinning development and use of any conversational or reflective tool. This is important, as a major part of my action research has involved either the use of CSHL conversational tools or development of my own tools according to the design criteria defined by the reflective tool taxonomy.

Initially, I would like to explore the purpose of Conversational Tools (CTs) and explain key aspects of my use and development of them.

As action researcher, I see CTs acting as a referential device to enable the SOL Learning Conversation process. 'Learning Conversations'

(page 265) gives a ten point specification guiding their development, from which I intend to develop my own versions.

There are two key design criteria that I have inferred from the functional taxonomy of reflective tools:

1. That relative to my own action research, CTs satisfy - and can be interpreted against - the various nodes/rôles of Systems 7 applied to the IT Workshop learning environment. Thus, who, where, why and how are the CTs being used? - i.e. the learning coach is using CTs as an enabling device with learners, or the task supervisor is employing CTs to enable teamwork and/or domain resource development.
2. That CTs used satisfy the CSHL MAR⁴S heuristic - i.e. that the CT used stimulates meaningful LCs according to the reflective modelling criteria that develops the SOL skills of the user.

For example, where I have developed and used my own bespoke³² CTs - such as the Spidergram and Triadgram - as part of my action research development, I will identify how and where it serves a purpose relative to the needs established in the Systems 7 organisational policy.

I would now like to explore further the psychological internal processes that underpin the taxonomy of reflective tools. The key questions that interest me are:

- What is a reflective learning tool?
- How does a CT enable the LC and develop SOL skills?

³²'Bespoke' in the sense that the CTs developed for my action research are based on CSHL underpinning specifications, 'tailored' to my own evaluation needs and purposes - i.e. manifesting as evaluative project management CTs such as the Spidergram and Triadgram etc.

I shall concentrate on using 'Learning Conversations' as my primary source of inquiry. The purpose of CT's is explained from 'Learning Conversations' as:-

" ..for people to operate optimally their internal processeswithin a negative feedback system of constructive self-validation. Such people can evaluate their own constructs of experience from at least three different sources:

1. the outside world of individual people
2. the outside world as a community of meaning and standards
3. the inside world in which their own organism acts as the 'test-bed' of fitness" (p.261)

'Learning Conversations' identifies the need for the use of 'conversational technology' to provide persons with the *means* to operate creatively:

" ..their 'process of doing' may link back on to their constructive processes to produce positive feedback of open-ended inventiveness" (p.261)

Conversational technology is argued as underpinning one's capacity to 'model' by use of the 'reflective' MAR⁴S heuristic. Specific CTs already developed by CSHL satisfying these 'modelling' criteria include:

- Repertory Grid technology;
- Structures of Meaning procedures;
- Flowdiagram techniques;
- Behavioural records with talk-back procedures.

My action research has employed many³³ of these conversational tools for a variety of learning purposes and developmental needs - i.e. repertory grid FOCUS and CHANGE procedures have been used to evaluate my own and other team members' on-the-job learning.

Each reflective tool used serves to model specific aspects of experience and behaviour - i.e. they can be set against a purpose node relative to a defined conversational system within Systems 7:³⁴

"As a general principle each tool to be described provides a record, and within the MAR⁴S facility, each functions to support the personal modelling of either the behavioural or experiential aspect of the process of learning" (p.263)

Hence, the argument that everyone working in the IT Workshop (staff and students alike) represent a *learning community* that experiences continual on-going change and development as part of the intended process underpinning the policy of the learning organisation.

Conversational technology is also seen³⁵ as linking a SOL personal environment with appropriate IT-based reflective tools, such as grid software and certain programming environments, e.g. LISP. Such CSHL reflective learning technology is referred to as part of an Intelligent Learning System (or ILS).

³³Including:

1. CSHL Repertory grid FOCUS and CHANGE procedures
2. Structures of Meaning, linked to Spidergram, Triadgram and Factorgram record development
3. CSHL 'Flow-Diagram' records to help structure and organise the authoring of this thesis
4. CSHL 'Talkback' records were developed to both summarise and capture an individuals attributed meaning. Related to repertory grids, Factorgrams and Time-line accounts - see chapter 6.

³⁴ [Harri-Augstein & Thomas, 1991]

³⁵See 'Learning Conversations', [Harri-Augstein & Thomas, 1991, p.374].

Contemporary IT systems that have been interpreted³⁶ as Artificial Intelligence (AI) solutions have been generally classified as expert or Knowledge Based Systems (KBSs). However, KBSs do not satisfy, the CSHL CT taxonomy. This is because KBSs fail to identify that the key purpose of the IT tool is to enable the learner's conversational reflections. CSHL ILSs, however, are designed to develop the SOL capabilities of a person - through reflective-awareness procedures - leading to an improved PMS. From grid-based CTs and CSHL structures of meaning procedures, the *key design consideration* centres around the process of being able to *raise personal awareness* through *appropriate elicitation of meaning*, i.e. to invoke *construing* in the form of a meaningful learning conversation. As these CSHL IT systems criteria are relative to the *person as learner*, then normal KBS IT packages do not guarantee enablement of SOL skills. This is because KBSs are primarily concerned with a learner's ability to perform task-oriented routing systems relative to some information database. Thus, from my investigations of IT and SOL I would propose that an ILS satisfying the SOL reflective tool 'design' taxonomy could be interpreted as an IT 'Knowledge Elicitation System' (KES).

The CT is therefore seen as enhancing one's learning awareness, through reflexive elicitation of personal meaning via reconstructive Ψ -active events with one's self. Thus, CTs serve as psychic mirrors

³⁶From:- 'Human-Computer Interface Design' [Sutcliffe, 1988], we have the Man-Machine Interface (MMI) interpreted as an intelligent KBS. The primary concerns are with qualities affecting human perception i.e. ergonomics linked to 'ease-of-use' and 'user-friendly' issues. Expert 'problem-solving' systems linked to task analysis solutions, with adaptive 'learning-shell' interfaces are proposed. These 'expert-systems' could achieve the CSHL task-based awareness criteria by default, but would not enable learner-learning awareness. This is because IT design criteria relating systems solutions to algorithms of personal reflection have not been utilised. The learning-link between personal perception and self-organised reflection does not appear to have been realised.

which help to stimulate the experiential learning process of the learner that ultimately governs - or drives - the learner's behaviour.

From 'Learning Conversations' we have³⁷:

"Tools that enhance awareness of the construction of personal experience by eliciting representations of personal meaning, support reflection upon the anticipatory mechanism which drives behaviour. .. Tools that record behaviour directly support the reconstruction of experience which generates feedback about the quality of performance." (p.263)

The two consequent psychological methods that underpin the use of CT reflective technology are identified from 'Learning Conversations' as:-

- the perspective of personal experience or *awareness raising* of one's learning process;
- the perspective of one's *actions and behaviours* - i.e. relative to some real-time task-oriented GDA.

The rôle of CTs - and constituent learning aids - in the IT Workshop is therefore governed by the above two factors combined with the previous group learning arguments. These arguments linked the conversational benefits to be gained from personal computer-oriented task-based learning programmes performed in an 'open-systems' group learning scenario. The computer is used in a *workshop context* that stimulates learning conversations as a form of *conversational play*, enjoyed between learner, machine and other persons available in the wider group.

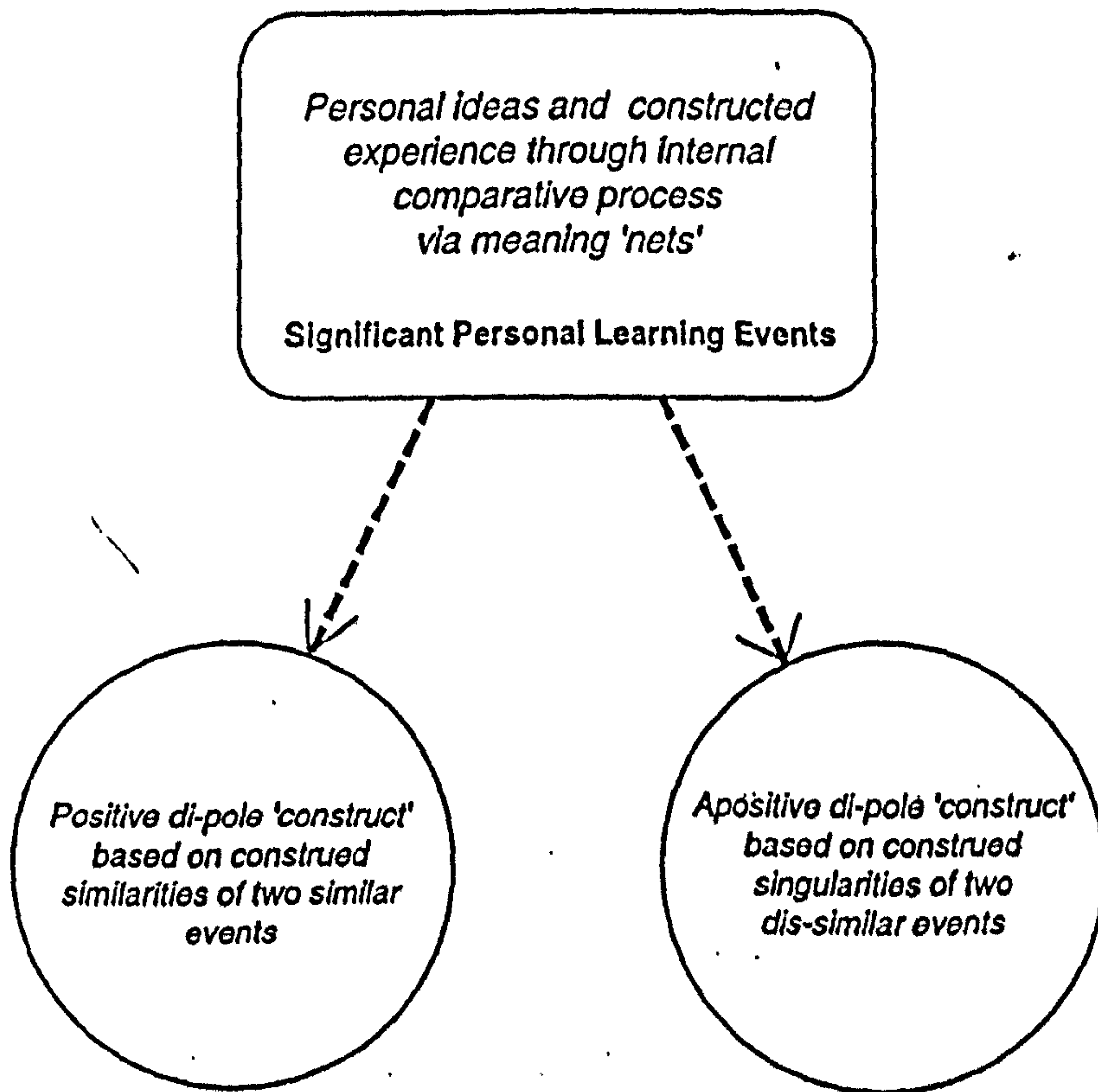
³⁷ [Harri-Augstein & Thomas, 1991]

fig.(3.6)

The Kelly Personal Construct Model

Applied to CSHL processes related to Conversational Tools

Prior Learning Focus by the Conversational Individual



The bi-polar construct

② Conversational Tools for action research evaluation

I shall now investigate some of the CSHL tools and procedures that have been employed in my action research development.

The CSHL³⁸ repertory grid procedures involving FOCUS and FOCUSed grids have been employed, mainly to serve as project development tools relative to myself as learning manager - or node 5 of Systems 7. From an organisational perspective of Systems 7, I - as action researcher - share the rôles of nodes 3, 4 and 5. In other words, I operate in my professional capacity as an IT tutor combining the three rôles of learning coach, task supervisor and learning manager.

These rôles are shared - in particular the task supervisor and learning coach rôles - with several colleagues that work with me in the IT Workshop. The IT Workshop operates on an equal terms basis among colleagues as part of a self-help practitioner team. For staff development reasons, mutual In-Service-Training (INSET) is required as part of my 'on-the-job' curriculum development policy.

This is where I have used the Kelly repertory grid - in the form of a CSHL CT - to analyse staff personal learning (see figure (3.6) 'The Kelly Personal Construct Model'). This has been done relative to a *developmental focus* as part of the IT Workshop learning policy, and has served as a valuable social evaluation study. The evaluation was conducted relative to myself and staff operating within the Systems 7 SOL environment, which provided *personal feedback evidences* from the IT Workshop operating as a social learning field.

³⁸See 'Learning Conversations' [Harri-Augstein & Thomas, 1991, p.157], which argues the use of FOCUS and CHANGE grids as personal evaluative tools that manage 'talk-back' as feedback of 'life-conversations'.

Thus, the Kelly repertory grid has been used as a *cognitive reflector*³⁹ to aid *staff development* within the action research learning scenario.

From 'Tools for raising awareness of the Learning Process', we have:

" (The grid as a cognitive reflector serves ..) ..a variety of methods for encouraging an individual to explore, extend and differentiate his personal construct system. Methods for exploring inferences and relationships that lie within one grid or between grids containing different sets of constructs relating to a shared range of convenience."
(p.8)

Patrick Slater⁴⁰ argues that grids can hierarchically elicit constructs as *evaluative dimensions*, analysing one's meaning relative to the *evidence of actual experience*:

"Kelly explains how anticipation may be considered as a series of mental templates. As the person experiences a new event, he evaluates it by seeing how well his templates fit it. ...I think of them (templates) as an hierarchical system of understandings and meaning - a construct system. Each construct is a dimension for evaluation because the sense made of an event depends on the relationship between the anticipation and the actual experience."
(p.172)

Slater discriminates between important ideas as being superordinate constructs, and small differences of experience as subordinate constructs.

³⁹Taken from:- 'Tools for raising awareness of the Learning Process' [Harri-Augstein & Thomas, 1976], which disseminates the uses and purposes of the various CSHL CTs that have been developed.

⁴⁰From:- 'The Measurement of Intrapersonal Space by Grid Technique', [Slater, 1976]. Where Slater's grid technique publication is described [Psych.Ab.-57, 1977] as:- " ..illustrating the flexibility and diversity of uses that repertory grids can offer therapist's."

This is then related to Hinkle's *laddering' technique* as a means of establishing the *personal meaning-dimension* underpinning the subordinate network of elicited constructs⁴¹:

"(laddering allows) ...the informant to nominate a series of constructs in an upward or downward sequence within his overall hierarchy of construing the event in question.." (p.70)

This laddering technique has been incorporated into the CSHL 'Talkback' structures of meaning procedure, from which '*summative records*' were developed to capture written accounts of learning conversations during grid 'talkback' sessions.

This *laddering-talkback* technique has also been adopted within the CT *Factorgram procedure*, developed as a means of *qualitatively analysing* factor analysis⁴² *quantitative data*. The quantitative data output from a factor analysis statistical procedure *identifies the related factors* of an investigation as clustered results, but *does not attribute meaning* to them. Only by personal conversational analysis of these clustered results can the underlying meaning of the factor analysis 'hidden dimensions' be revealed. Hence, talkback modelling via an appropriate CT allows one to infer qualitatively the - otherwise hidden - underlying dimensions of factor analysis results.

This *qualitative evaluation procedure* is part of a *discursive discourse process* - i.e. a conversational method of reasoning with one's own meaning system. As action researcher, I have practically developed

⁴¹ [Slater, 1976].

⁴²I shall elaborate on the factor analysis and Factorgram research techniques in chapter 6 - Action Research Results and Conversational Evaluations from the IT Workshop Project. My purpose here, is to argue how the Factorgram process represents a CT, underpinned by *discursive discourse analysis* - a conversational and 'systems-based' qualitative analysis procedure.

this concept into an experimental *systems-based evaluative technique* that I now propose to call *discursive discourse analysis (DDA)*.

At the heart of most CTs that I have used for developmental project management evaluation is the CSHL inspired *structures of meaning* design procedure.⁴³

The process is very flexible and works according to three key design principles:

1. elicitation of items of meaning
2. sorting of their relationships
3. display of the final pattern

The Spidergram CT that I have developed is loosely based on the above CSHL criteria. The Spidergram is also underpinned by the Gestalt rationale⁴⁴ that " the whole is different from the sum of its parts ", - with the self negotiating his/her own field on which to focus one's experiential awareness.

In 'Gestalt Counselling'⁴⁵ it is argued that:

"The novel figure that emerges becomes the focal point of interest in our experience of the moment. ..The stronger and more urgent this figure, the clearer and more immediate our response is likely to be. ..Awareness is a form of experiencing. It is the process of being in vigilant contact with the most important event in the individual environmental field. ..It is a meaning-making function which creates fresh Gestalten - new insight into the obvious unity of disparate pieces of self-knowledge, or consciousness, as if for the first time.... Awareness of a need is usually followed by excitement and mobilisation of self and resources. At this state.. ..the object-figure or need becomes sharper and clearer, generating energy and images of possibilities for satisfaction. (in) ..implementing actionthe client

⁴³See 'Learning Conversations', [Harri-Augstein & Thomas, 1991, p.271].

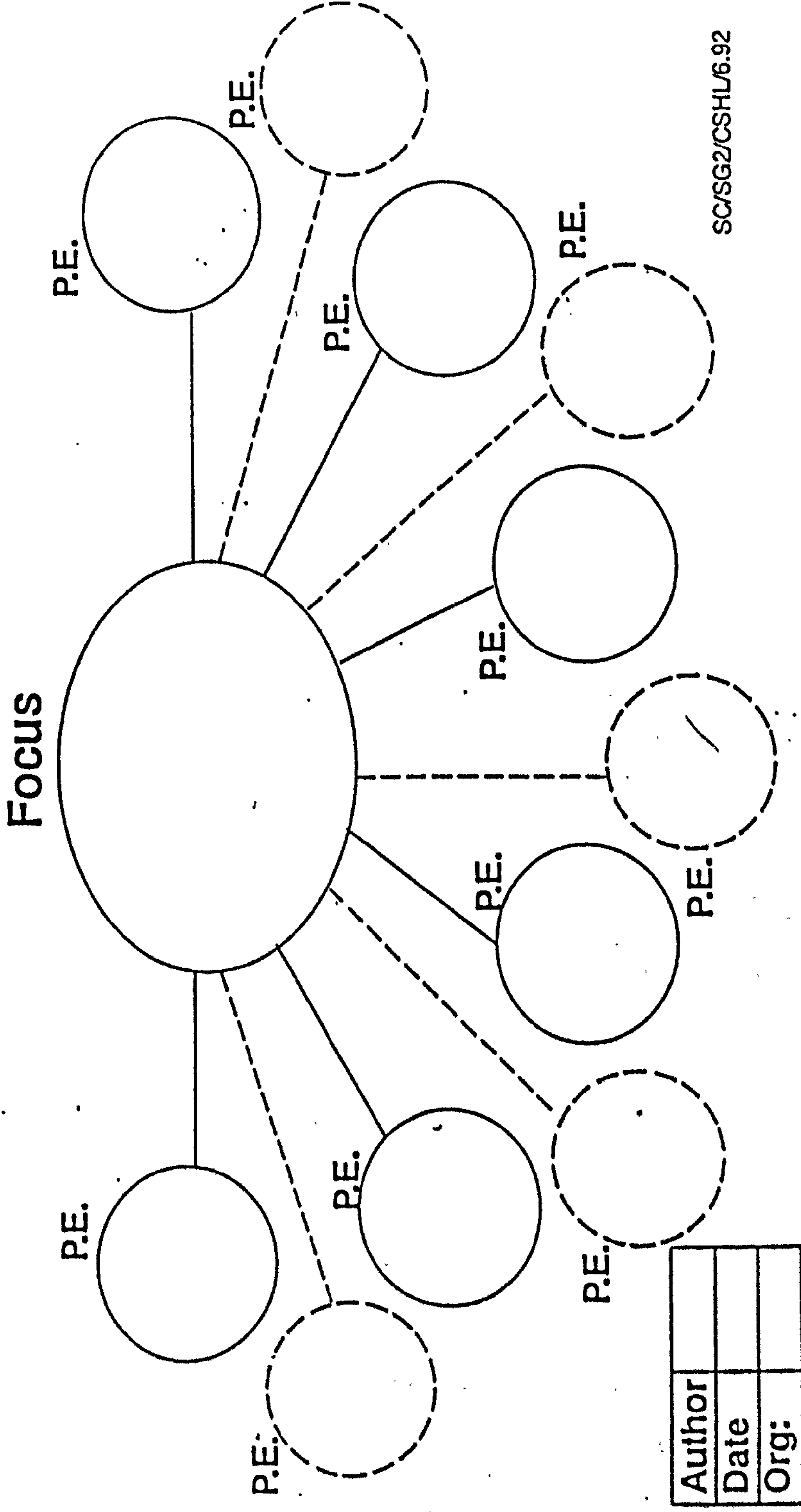
⁴⁴Taken from Reber's 'Dictionary of Psychology', [Reber, 1985]

⁴⁵Petrůska Clarkson's 'Gestalt Counselling in Action' [Clarkson, 1989]

SPIDERGRAM®

Personal Experiences (P.E.) referral Sheet. Enter topic, issue, subject or event you wish to think/explore about into the FOCUS balloon. Think deeply about all the personal events of your experiences related to this focus and enter these actual experiences as raw data into the other PE balloons.

Add extra PE balloons as needed. If a PE becomes a focus for more experiences, then put this event as a new focus into another blank spidergram and explore, using as many additional blank templates of paper as required in order to continue your brain-storming session!



SC/SG2/CSHL/6.92

fig:(3.7)

chooses and rejects possibilities. The person actively reaches out towards possibilities, seeking to overcome obstacles and experimenting with different forms of appropriate action. ..Good contact is a core idea in Gestalt. Perceptually, it is equivalent to focusing clearly and vividly on the most important aspect of a personal situation without extraneous or background stimuli distorting the fullness of attention or the quality of the interaction." (pp.32-34)

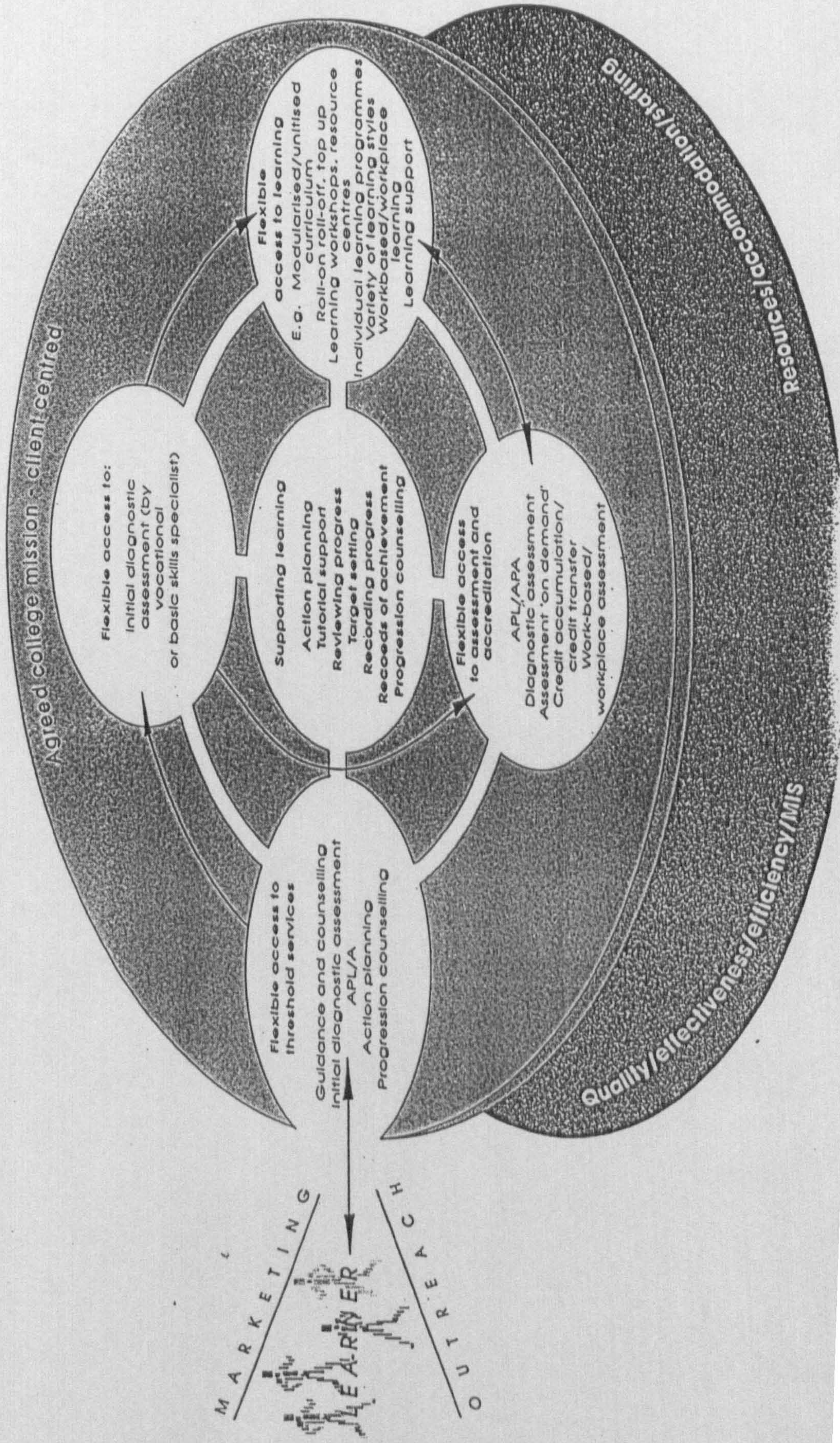
Combining the Gestalt ideas of '*wholeness*' and '*undistorted focus*' - as an *experiential awareness process* - with the SOL structures of meaning design criteria led to development of the Spidergram as an awareness-raising CT (see figure (3.7)).

As action researcher I have made extensive use of the Spidergram and have been overwhelmed by its use from colleagues elsewhere in my college. As an interesting anecdote, I shall briefly report upon several of the more amusing comments and feedbacks linked to my developing the Spidergram.

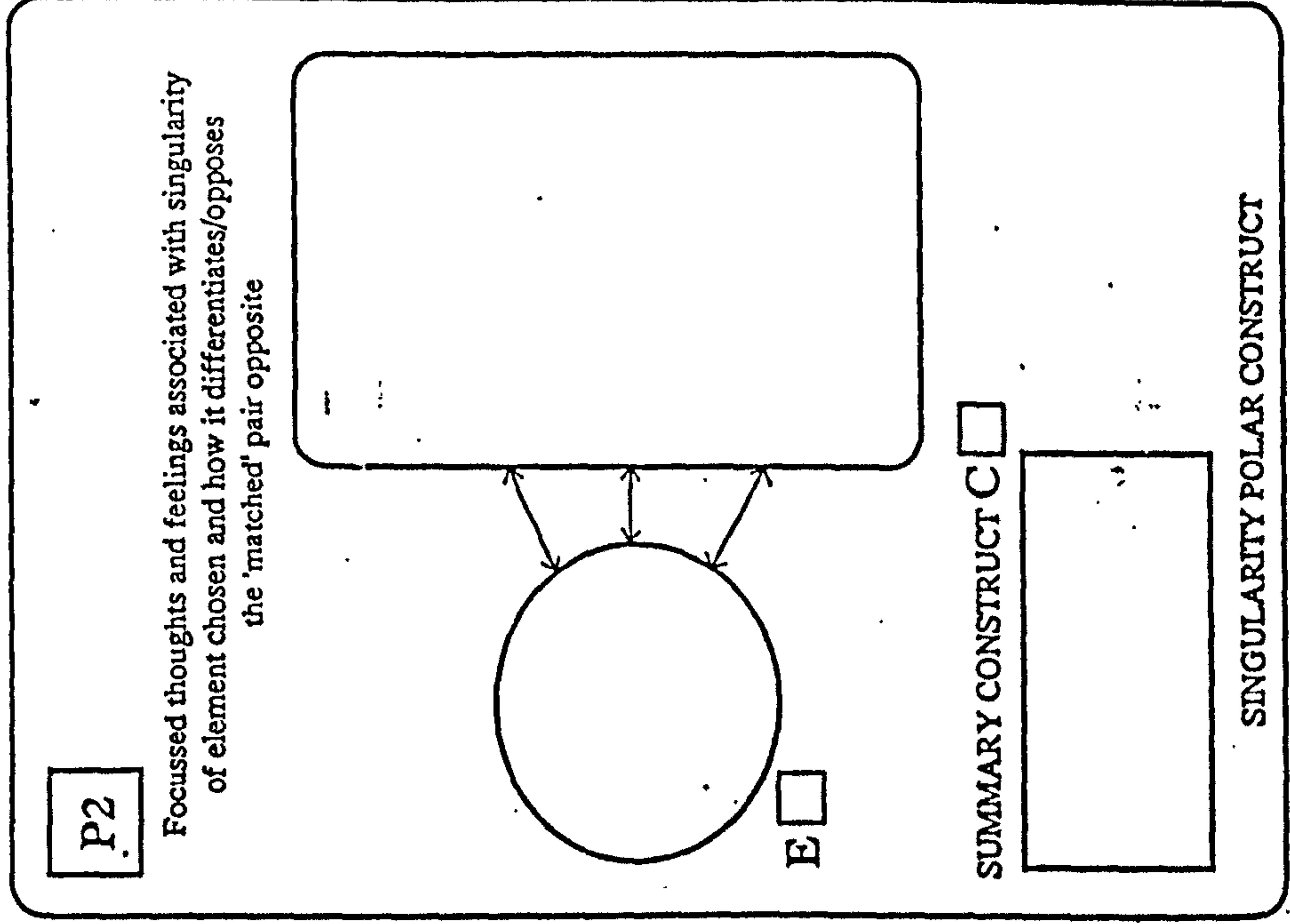
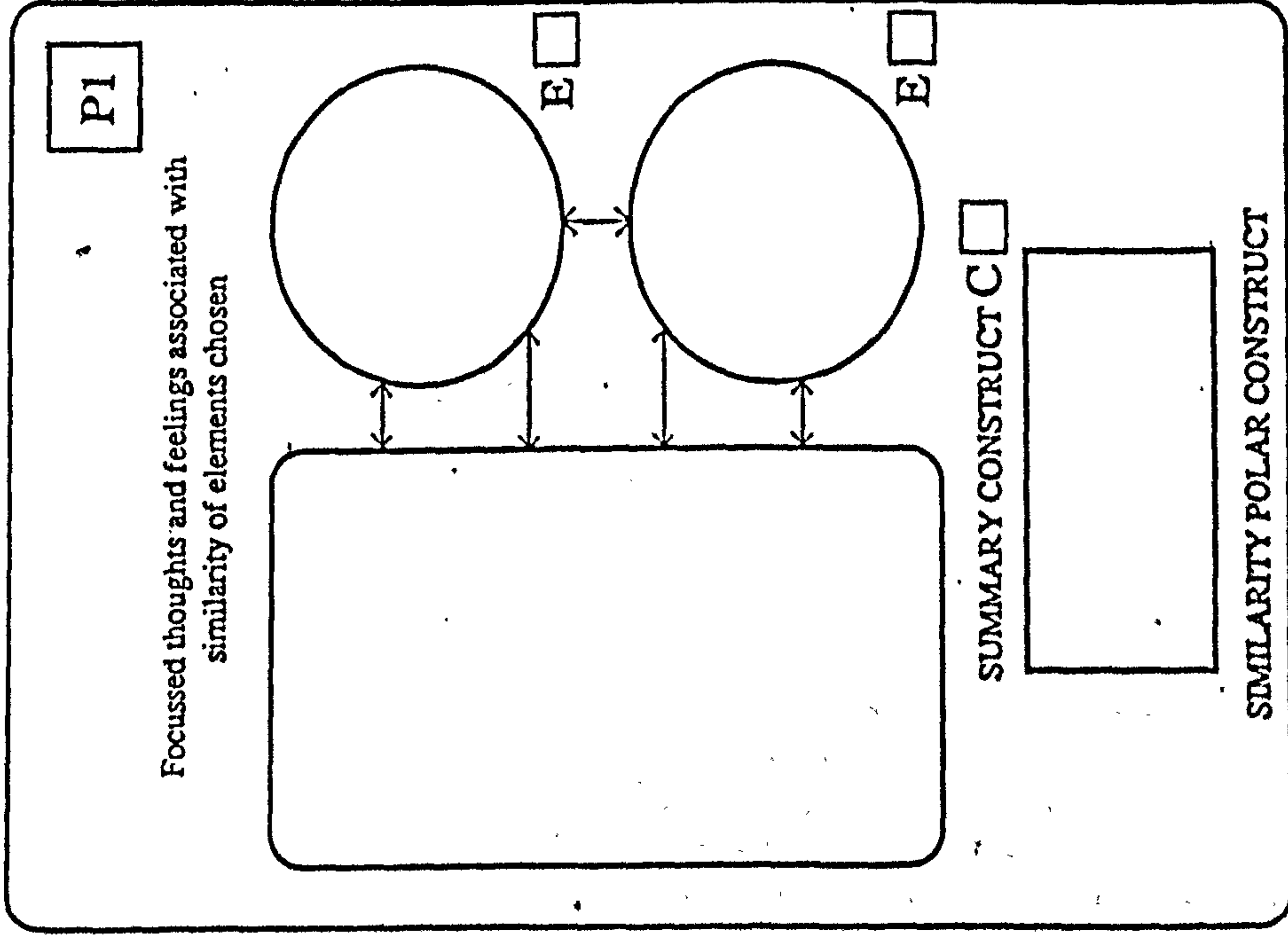
I discovered that one of my colleagues had already used the Spidergram as the *essential awareness raising tool* on an MBA course run at Cornwall College, Camborne. On further investigation I found out that another colleague of mine had recommended its use to the lecturer running the course concerned. A different colleague - from my IT Workshop - had used the Spidergram to fill in a 15 minute INSET slot at a Cert. Ed. all-day seminar workshop, held at the St. Austell Rugby club. In his words: " I couldn't think how else to get people to concentrate their ideas and views on a topic in such a short time-span ". Another close colleague of mine liked using the Spidergram because: " It's simple and easy to use - and I feel more in charge of my ideas ".

fig.(2.1) The FEU 'learner-centred' college [reproduced from FEU-Flexible Colleges, 1990]

T H E F L E X I B L E C O L L E G E



TRIADGRAM®



SC/HR/TG1/MCC/12.92

AUTHOR DATE LEARNING FOCUS

fig.(3.8)

Spidergrams have also been used in the first stage of eliciting personal experiences prior to performing a triadic analysis to obtain personal constructs⁴⁶ (PCs).

Along the same CSHL-oriented design lines of the Spidergram, I developed the *Triadgram* - see figure (3.8) - as a personal construct Kelly-based CT that could be used by colleagues *independently*⁴⁷ of my own interaction.

Thus, with Spidergram and Triadgram CTs I was able to improve both the quality and efficiency of the process leading up to the construction of a raw data repertory grid. I was then able to perform the CSHL FOCUS procedure on the computer. Focused grids were then fed back and qualitatively analysed through laddering-up talk-back exercises as part of the final evaluative phase⁴⁸ of the DDA.

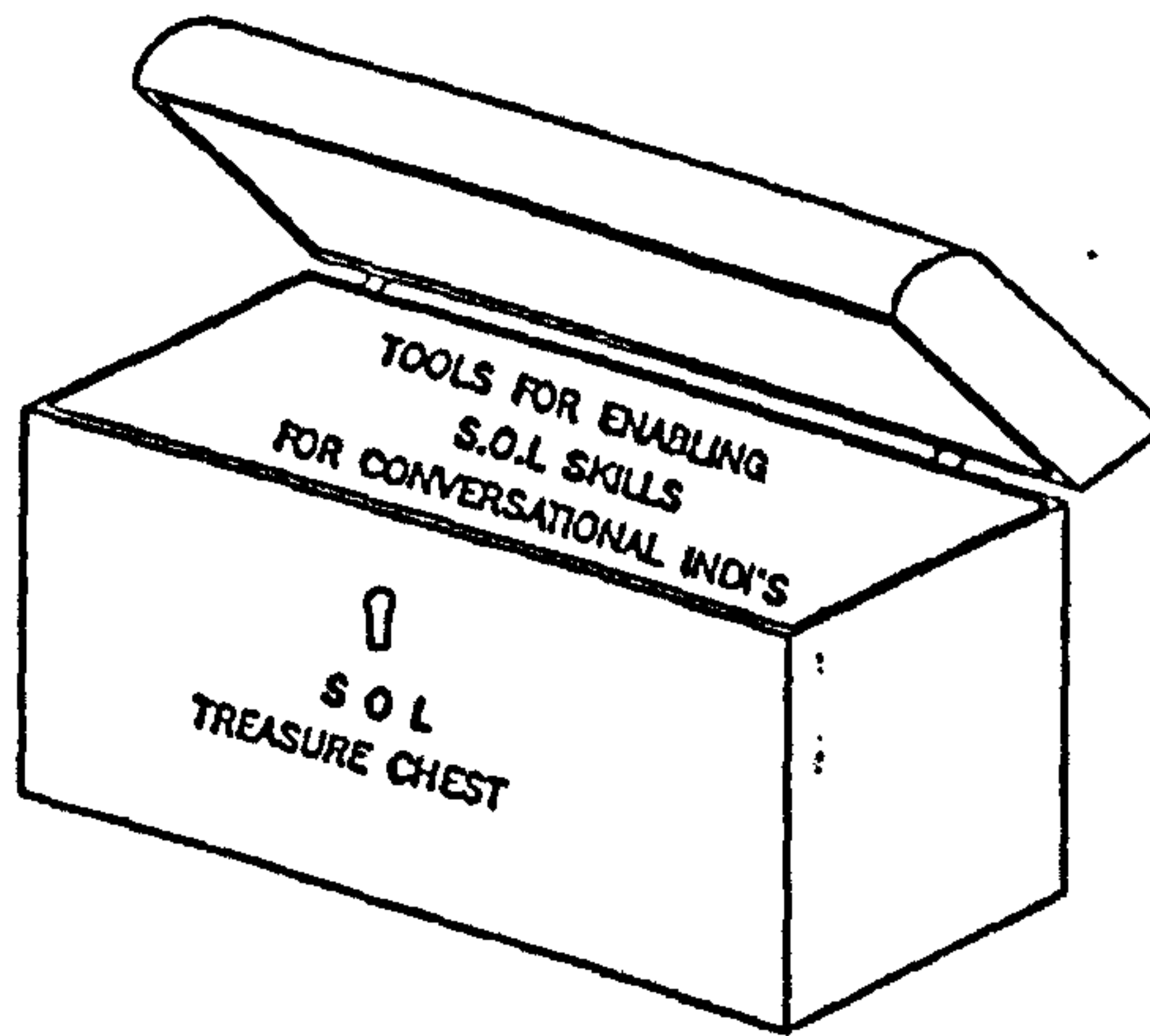
⁴⁶See 'Self Organised Learning', [Harri-Augstein & Thomas, 1985, pp.18-76]. Describes the elicitation procedures for obtaining elements and personal constructs, leading up to the formation of a 'raw' grid and the 'hand-focusing' technique employed.

⁴⁷One of the key criticisms of using repertory grids [Fisher, Russell & Mc.Sweeney, 1991] was the amount of time required for analysis and exploration. Elicitation via a 'conversational' IT programme called 'PEGASUS' was recommended (CSHL originated, but unacknowledged in the JFHE), which allows the respondent to insert their own elements and conduct a triadic procedure independent of researcher/tutor/therapist etc. As I could only interview IT Workshop staff at home 'after-hours', this restricted both my time and use of resources. As I couldn't supply a portable computer with 'PEGASUS', I developed the Spidergram and Triadgram tools for private usage. Staff seemed to prefer this method, owing to both the simplicity and ease of using these tools. Raw grids were, however, processed on the computer using the available CSHL grid software. Another argument for providing people with an *independent system for eliciting their own constructs* is the avoidance of the researcher imposing his or hers. In 'Using Personal Constructs' [Hall, 1978] cautions are given regarding the temptation of the researcher to 'interfere' with the client's system of construing, due to language being " ..at variance with the investigator's own construct system."

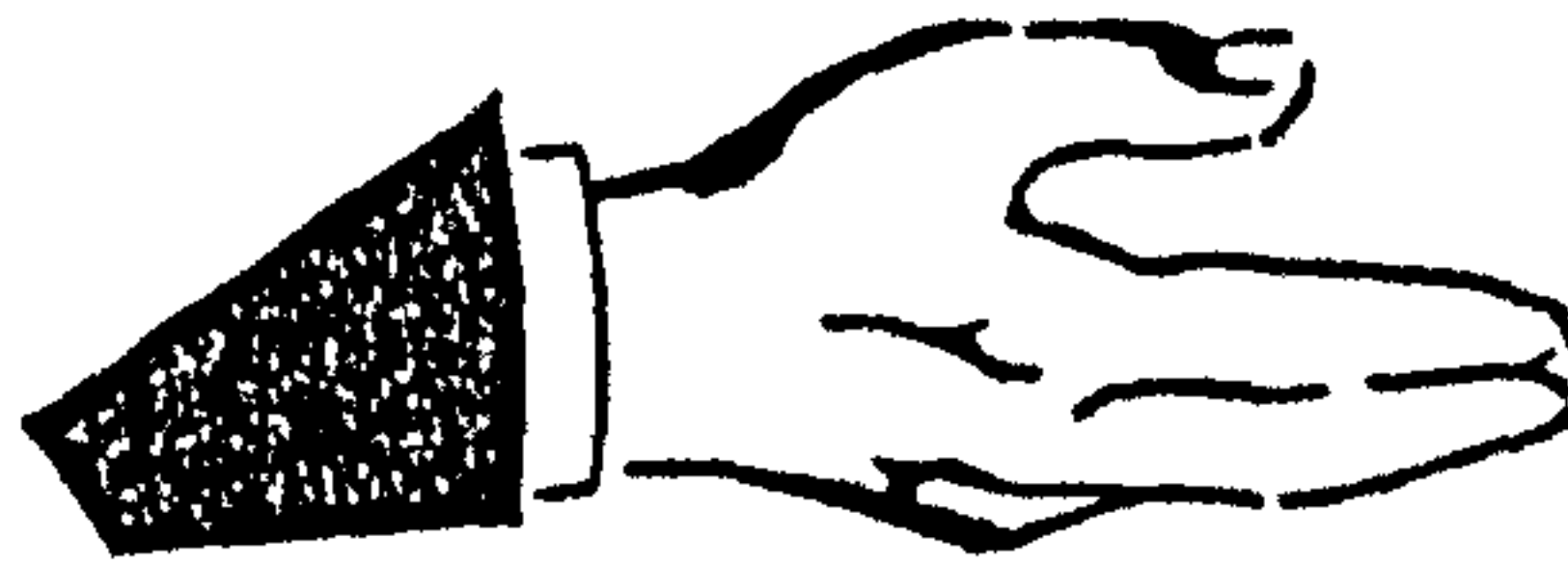
⁴⁸See chapter 6 - Action Research Results and Conversational Evaluations from the IT Workshop Project - for a full description of how and where CTs have been used for evaluative purposes.

fig.(3.9)

Conversational Tools Metaphor



THE HAND OF FACILITATION AND ENABLEMENT



MGT.SCH/INDIA/1993



THE KEY TO UNLOCK
PERSONAL POTENTIAL FOR LIFE

I would like to end this section on Conversational Tools with a quote from my tutors⁴⁹ regarding the importance of developing psychological tools:

"Learning .. (is) .. synonymous with the process of living. ..And .. since in Kelly's terms thought, feeling and action are indivisible then psychological tool-making may be the most productive activity for advancing psychology.. " (p.117)

An interesting and user-friendly metaphor of the whole policy and process of using Conversational Tools to both facilitate and enable SOL skills can be seen in figure (3.9), where the purpose of the learning coach is visualised as *the hand of facilitation and enablement*. Through negotiation with the learner, the coach can unlock the SOL *treasure chest*, which contains a range of Conversation Tools. To unlock the SOL treasure chest - on behalf of the learner - is equivalent to releasing '*personal potential for life*, in the form of acquired SOL skills.

⁴⁹From 'Self-organised Learning and the Relativity of Knowing: Towards a Conversational Methodology', [Harri-Augstein & Thomas, 1979]

3.2 Key fields of investigation : New paradigm social psychology research methods as part of a SOL action research agenda

This theme picks up from section 2.1.4 earlier in this chapter, where I introduced the idea that there was an alternative action research agenda, from which a 'new paradigm' experimental methodology could be identified. This agenda was gleaned and summarised from Rom Harré's thesis of new paradigm ethogenics, where the elements of real-life social learning scenarios, social learning episodes over time, social learning proposals based on needs and the social parity of researcher in the field were summarised.

I intend to examine these ideas in more depth, so that my action research project can be redefined and qualified relative to the 'new paradigm' axioms identified. From this redefinition of action research, it is intended to integrate these ethogenic concepts into a *SOL conversational paradigm* which then serves as the *praxiological experimental method* adopted for this project.

3.2.1 Influences behind new paradigm social psychology

★Rom Harré and new paradigm ethogenics

From the sources investigated so far, Harré's recent articles⁵⁰ in 'The Psychologist' put forward the new paradigm social psychology approach to research practice.

⁵⁰The original article, 'Reappraising Social Psychology - Rules, Roles and Rhetoric', has already been quoted. Harré's subsequent article to 'The Psychologist', 'Paradigms, Experiments and the Discursive Turn', was published several months later [Harré, June-1993] in response to Rob Farr's article in the same edition, 'A Device is not a Paradigm'. Farr argues that Gestalt psychologists were the first to oppose the accepted paradigm for social psychology, i.e. the accepted paradigm essentially a behavioural and experimental science rooted in positivism and observations of social control.

Harré links the concept of a paradigm as a "thought-style" and the metaphysical scientific approach of:

" ..critical reflection on the nature of the world to be investigated." (p.24)

This idea of building-in critical reflection as part of the innovative research process is also supported by Piaget⁵¹:

"I think it's impossible to do anything new in the experimental field unless one is guided by reflection, by ideas. ..First of course, it (reflection) can produce new actions, because one opens up new possibilities when one has understood what one has done. Then again as an explanatory model it is the point of departure for a series of other conceptualizations.. (capable of application into) ..a much larger field of generalization. ..I believe that philosophical reflection is indispensable for the scholar, indispensable for research; but reflection is only a means of asking questions, not of answering them. Reflection is a heuristic process, not a means of verification." (p.13)

Harré rejects the conventional social psychological research paradigm that " ..experimental investigation of individual automated behaviour" should be the basis upon which to carry out empirical field work.

Instead, Harré proposes *new paradigm ethogenics* as the *empirical basis* for conducting social psychology research. Referring to the ethologist's methodology of working in the real-world field of events, Harré supports the idea of discursively recording and accounting⁵² for "*real strips of life*".

⁵¹Taken from 'Conversations with Jean Piaget', [Bringuier, 1980]

⁵²Which also supports my previous arguments proposing 'discursive discourse analysis' as a conversationally based qualitative technique for evaluating research evidences - from qualitative or quantitative results. New paradigm ethogenics and real strips of life are discussed in Harré's article 'Rules, Roles and Rhetoric', [Harré, Jan-1993]

In 'Creating social worlds', also from 'Rules, Roles and Rhetoric', Harré proposes the idea of developmental social psychology, where action research investigates how:

" ..people become capable of jointly producing the flow of actions that make up social episodes and in the structures of which social relations have their immanent being." (p.26)

The key to such a developmental approach arises from Harré's notion of *joint actions acted* in the *real* social settings of life. These constitute 'episodes' of social learning relationships as *real-time events* within the *social learning field* itself. Hence Harré's idea that 'experimenters' - in the rôle of action researchers - could *metaphysically propose* and take *joint participatory action* in developing a new social world. As Harré describes⁵³:

"Sometimes Gedanken experiments and mathematical analysis were called for and the laboratory abandoned. At every step fitting the methodology to the metaphysics was the key to progress." (p.25)

All of these arguments suggest consideration of a *socio-gedanken* prior experimental approach, within which those involved in *creating social worlds* as a form of social psychological experiment can do so via a *social learning proposal*. This proposal is based on initial anticipation and identification of the social setting's needs and potential solutions for achieving them. The *identified project solutions* based on social context-related needs become the *strategy* underpinning the *expected joint actions* required in order to create the *envisaged socially proposed* world - which links with Kelly's *commonality* and *sociality* corollaries from PCT, which extols the virtues of sharing common experiences within a common social process.

⁵³ [Harré, Jan-1993]

Harré also supports the idea that conversational discourse is at " the heart of the matter " of developing a methodology and analysis for new paradigm ethogenics. In 'Rules, Roles and Rhetoric':

"Once the idea strikes one, it becomes difficult to resist the hypothesis that attitudes, social relationships, emotions and much else that is investigated as a topic in social psychology, are created in and have their being only in discourse. The conditions for the possibility of discourse become the conditions for the possibility of there being any kind of social psychology as a feature of human life. ..yet another dimension of the new methodology.. (is the idea of) ..the self, as the singularity of personhood." (p.27)

In 'Rules, Roles and Rhetoric' Harré rejects laboratory-styled social scenarios in favour of the social interactions to be found in the real world outside⁵⁴:

"I also believe that there are better ways of studying the phenomena of social interaction that are adjusted to what is really going on when people think and act, singly or together. I particularly want to reject the idea that social interaction is the product of the independent actions of autonomous individuals." (p.263)

From the same article Harré sums up his new paradigm ethogenic theses with two postulates:

- "Persons are basic particulars, having various powers and skills, which they employ in making use of local cultural resources in the creation and maintenance of orderly interactions. They are not the sites of the workings of hidden cognitive mechanisms, such as information processing modules.
- All social and psychological phenomena are, at base, discursive. Language use must be the root analogy for all human action, and conversation the root model for the analysis of all social episodes. Social actions are not effects and it is futile therefore to look for their causes." (p.263)

⁵⁴Taken from 'Paradigms, Experiments and the Discursive Turn', [Harré, June-1993].

This ethogenic approach supports my previous ideas of using conversational tools in the action research field. The building-in of *conversational evaluative techniques* such as biographical logs, personal accounts feedback and repertory grids constitute the key *new paradigm action research method* for *analysing social learning episodes* within the *socially proposed learning setting* itself.

Thus, Harré's new paradigm approach towards social psychology provides much of the rationale underpinning the process of the *action research agenda* to be followed:

- Initially, devise a social learning proposal based on creatively operating within *the needs* of an identified 'real-life' application field.
- Develop appropriate conversational tools to account/record/analyse/evaluate *key events* discursively as *social learning episodes over time* - i.e. this time factor suggests a *chronodevelopmental experimental approach* towards action research in general.
- Regard the action research experiment as on-the-job developmental social learning psychology - with no pre-conceived outcomes, other than the attempted vision itself.

☆ Carl Rogers and congruent social relationships

The other important facet of new paradigm social psychology is the relationship between action researcher and other 'social beings' in the 'learning field'. In my particular case this involves relationships with colleagues and students in the IT Workshop. I have already argued the Heap and Rogers approach towards developing a practitioner team based on a democratic - rather than hierarchical - organisational management model.

My original interest in the rôle of the action researcher - relative to field-based clients - arose from a CSHL seminar held in January 1994, where Thomas and Harri-Augstein disseminated the idea of a *democratic responsibility* between researcher and clients involved in the developmental social learning domain. The idea debated was that clients involved in the developmental social learning setting should *not* be treated as *subjects*. A more symmetrical approach was required, involving a symbiotic relationship between researcher and client purposes - i.e. *access* to the *client domain* should be conducted via *empathic* negotiation and agreement of *mutual needs*, leading to a *contract* constituting an *open social learning proposal* defining the research agenda/schedule. This *contract of symbiotically related needs* fits in with Harré's ".jointly producing the flow of actions.. (and) ..development of social relations in the field." ethogenic approach.

The rationale underpinning this symbiotic approach is the thesis that a conversational science paradigm creates a social learning climate of *humanistic parity* between researcher and domain clients - which I propose to call *social parity*. Social parity avoids the conventional paradigm trap of creating a 'social paradox'. This 'social paradox' arises from the conventional research practice of looking for human attributes in a de-humanised scenario. This dehumanisation occurs from the conventional physical science paradigm of experimentation being applied to subjects outside their normal social setting. Such a scenario constitutes an anti-social paradigm, as it is usually divorced from the reality of the people themselves.

New paradigm ethogenics and methods of human inquiry⁵⁵ sets out to *humanise action research* by adopting a set of *key principles* underpinning the *qualities* and *ethics* of social psychology relationships.

These open-relationships between persons have also been proposed by Carl Rogers. From 'Carl Rogers Dialogues⁵⁶' we have an argument promoting congruence as the ideal form of social relationship between persons.

⁵⁵From 'Human Inquiry - A sourcebook of new paradigm research', John Heron [Heron, 1981] argues the philosophical basis for a new research paradigm in chapter 2 (pp.19-36). His key argument centres around the need for co-operative inquiry, whereby the researcher shares his research, such that 'subjects' become co-researchers: "...not only will the subject be fully fledged co-researcher, but the researcher will also be co-subject, participating fully in the action and experience to be researched." Thereby supporting the following arguments of *congruence* and *social parity* between the researcher and other social beings involved in the action research domain.

⁵⁶'Carl Rogers Dialogues', [Kirschenbaum & Henderson, 1990] includes both a summary of Carl Rogers's main contributions as well as transcripts of public conversations held with people such as M. Buber and B.F. Skinner.

Thereby the therapeutic climate between persons should be based on understanding through mutual trust, honesty and openness:

" ..that genuineness or congruence is the most basic of the three conditions.. (towards creating an ideal therapeutic climate). Genuineness in therapy means that the therapist (or new paradigm social-field researcher) is his actual self during his encounter with his client. ..he is willing to experience transparently any persistent feelings that exist in the relationship and to let these be known to his client. ..Being real involves the difficult task of being acquainted with the flow of experiencing going on within ones self, a flow marked especially by complexity and continuous change." (pp.11-12)

Rogers also argues for an accurate empathic understanding as the basis of a social encounter:

" ..accurate empathic understanding means that the therapist is completely at home in the universe of the client. It is a moment-to-moment sensitivity in the here and now, in the immediate present." (p.15)

This implies a social-empathic existential approach towards conducting relationships as real-time events within social learning episodes - i.e. the premise of social learning relationships being conducted in a therapeutic climate of trust.

Rogers further argues that personal psychological change can occur through proper therapeutic relationships:

"Several studies.. ..tend to confirm the hypothesis that congruence, unconditional positive regard, and sensitive empathic understanding are important antecedents of therapeutic movement and progress." (p.17)

The emphasis (relative to "growth hypothesis" and "self-actualisation") on the self-directive capacity of the individual and the release of this potential through a suitable growth promoting climate.. (implies that) ..client-centred therapy represents a "field-theory approach".. ..concerned with all of the elements in an immediately present situation that appear to be involved in the process of change." (pp.27-29)

This suggests that appropriate relationships between persons in the social learning field promote the acquisition of self-organised learning skills. Rogers, in conversation with Buber, also feels that self-management in the form of experiential awareness of each moment is the best way an individual can cope with the rapid social and technological changes occurring in late 20th Century society:

"It seems to me (Rogers) that the individual who is open to his experience is continually valuing each moment and valuing his behaviour in each moment, as to whether it is related to his own self-fulfilment, his own actualization, and that it's that kind of valuing process that to me makes sense in the mature person. It also makes sense in a world where the whole situation is changing so rapidly that I feel that ordinary lists of values are probably not as appropriate or meaningful as they were in periods gone by." (p.77)

Rogers links the here-and-now of 'real-time' personal relationships with existentialism:

"I (Rogers) think there is.. ..a fresh breeze blowing through the world, ..it is expressed in a growing interest in existentialism and in the existentialist point of view. ..It is exhibited in (Maslow's) "third force", .., the development of self-theories, the concern with the existential person, the discussions of being and becoming. ..He is discarding the alibis of "unfreedom" .. (and is choosing) ..his own unique individual self." (p.82)

Rogers links social therapeutic development to the overall process of individual learning:

"I have described therapeutic development as: "a self-initiated process of learning to be free." This learning, this movement, enables them to live as more individuated, more creative, more responsive, and more responsible persons. (p.83)"

Rogers also promotes, in conversation with Fred Skinner, the idea of an appropriate *learning climate* - or social learning scenario -for students, in the form of developing self-directed learning as a means of managing personal/social change:

"In the kind of culture I would be in favour of designing, parents, teachers, and others would be helped to establish such conditions (a psychological climate to promote and maximise truly human qualities) in the life situations of the persons with whom they deal. ..Our goal.. ..in such research would be to find the conditions which would increase the capacity for personal choice, for self-direction, for spontaneity and creativity, for independence, for flexibility. Such conditions would increase the tendency.. ..toward (creating a) personal scientific locus. ..We would bring about the likelihood that individuals could not be shaped by controllers. I have endeavoured to establish those conditions as a learning climate for students. There is a good deal we do not know about the kind of conditions that really do release freedom in people. It is the kind of educational climate which I would hope for in a culture we might design for persons. It would, I believe, enhance and promote self-directed learning. ..It means a following through of one's current focuses, using all the modern resources available, and doing so on a self-chosen, self-directed, self-initiated basis. That kind of an education would not achieve static goals which could be defined in advance. It would achieve the development of changing persons, persons with a greater degree of self-confidence in directing themselves.

..I am talking about extending the philosophy of democracy down to individual life, individual learning, group and family living. Not only the worth of the individual, but his capacity and right for self-determination and choice would be important. It would produce an open, changing kind of society. Change and the process of change would be built into it. In this kind of culture, every citizen would be a responsible planner. we would have initiated a process of continuing and self-directed change, not a community of static goals established by one person, or established by an elite. (pp.120 -121)"

Hence, the humanistic ethical argument that democracy amongst persons underpins the essence of social parity - which can manifest itself in all the social learning scenarios of life. This Rogerian principle suggests the *ethical basis* for *all* social psychological relationships to be managed in the new paradigm action research field.

The above passage also supports the learning policy adopted for my own action research field development - namely that the IT Workshop should operate as a flexible learning environment developing SOL personal skills as the primary curriculum.

This further suggests that the IT Workshop represents a *real-life social learning proposal* that supports *individual and group learning relationships* among staff and students according to a *learning policy* underpinned by *social parity* relationships.

3.2.2 A SOL action research paradigm as a praxiological experimental method

Having investigated some of the key influences underpinning new paradigm social psychology research, I would like now to link these ideas with practices from the field of action research in general. In particular, I intend to identify an action research agenda that is underpinned by, and capable of delivering, the new paradigm philosophy investigated so far. Such an alternative methodology will validate my small scale action research project. A new paradigm experimental methodology represents an alternative approach to *carrying out action research field-work*, allowing me to be free to develop and investigate my own interests systematically. Such freedom will allow me to explore my own - as well as colleagues' - hunches and intuitions, as well as develop solutions commensurate with the learning policy needs of the IT Workshop. As William Coulson⁵⁷ puts it:

" ..positivism had come to obscure rather than illuminate in the science of man, and because methodology had become end rather than means. Pointing the way to a freedom of investigation, disrupting our scientific self-consciousness, was possibly Polanyi's great contribution to the conference. There are such things as good hunches, anticipation of knowledge which turn out to be correct even though we cannot completely specify the clues. We need to rethink our theory of scientific knowledge because it fails to account for this - for what is obvious. (p. 149)"

⁵⁷Taken from the commentary given by Coulson at the five day conference organised by the Western Behavioral Science Institute into the philosophy of the behavioral sciences, published as 'Man and the Science of Man' [Coulson & Rogers, 1968].

In my opinion, new paradigm social psychology represents a significant contribution towards this reorientation of scientific knowledge, and how experimental practice ought to be conducted.

John Elliott's 'Action Research for Educational Change⁵⁸', suggests an action research practical methodology that appears to be underpinned by the 'new paradigm' approach.

In chapter 2, Elliott discusses how professional learning on-the-job can be supported through action research. In particular, he identifies the principle of translating visionary aims into pedagogical activity as a praxiological process:

" ..a set of principles to guide teachers in translating educational aims into concrete pedagogical practices. ..This praxiology embraced the process of education and not simply its content. (p.15)"

This suggests that a praxiological approach allows one to distinguish the experimental process as a *practical means* to carry out the methodology, not serving as the *end* in itself. This leads me to identify a set of practical action-steps (i.e. a praxis) that constitute themselves as the new paradigm experimental methodology (or praxiology) - i.e. an *action research paradigm* as a *praxiological⁵⁹ experimental method*.

⁵⁸'Action Research for Educational Change', [Elliott, 1991] includes chapters on how professional learning can be instigated through an action research approach, being a reflective practitioner, and a practical guide to action research.

⁵⁹Praxiology has therefore been introduced as a term to explain the active experimental process of translating the subjective aims of new paradigm social psychology into a 'SOL-based' action research praxis. Whilst Elliott identifies 'praxiology' in the context of 'educational' pedagogic practice, I have applied the term to a more 'generic-based' definition of managing new paradigm 'conversational' action research. This just happens to be applied to my IT Workshop, which operates as an educational setting. The process, however, is applicable to any social learning setting - see the 'generic' research models depicting this process at the beginning of chapter 6.

Elliott recognises the 'trap' that many action researchers tend to fall into as being a desire to opt for quantitative methods of 'numerical-based' data collection as opposed to qualitative field-based personal accounts:

" ..teacher researchers in schools tend to opt for quantitative methods of data collection, such as questionnaires, in preference to qualitative methods, such as naturalistic observations and interviews, because the latter involve 'personalised' situations in which colleagues and pupils find it difficult to divorce an individual's position and role as researcher from his/her other positions and roles within the school."
(p.62)

This clearly demonstrates a lack of social parity, not only in the perceived relationship of the researcher rôle, but also of the relationship rôle between teacher and pupil. This implies that developing the ethical basis of social parity is a *substantial part of the action research* approach which - in itself - eases the process towards qualitative data collection methods.

Elliott also suggests that *action research represents a cycle of activities* occurring historically - and developing - over time. It is necessary to recognise the *unpredictable nature of field work* and the necessity to *record/account* for any on-the-job *spontaneous events* that represent the real-life action steps performed:

"(Action research means) ..telling the story as it has unfolded over time. It should include accounts of:-

- How one's 'general ideas' evolved over time.
- How one's understanding of the problem situation evolved over time.
- What action steps were undertaken in the light of one's changing understanding of the situation.

- The extent to which proposed actions were implemented and how one coped with the impossible problems.
- The intended and unintended effects of one's actions, and explanations for why they occurred.
- The techniques one selected to gather information about:
 - (a) the problem situation and its causes
and;
 - (b) the actions one undertook and their effects.
- The problems one encountered in using certain techniques and how one resolved them.
- Any ethical problems which arose in negotiating access to, and release of information, and how one tried to resolve them.
- Any problems which arose in negotiating action steps with others, or in negotiating the time, resources and co-operation one wanted during the course of the action research." (pp. 88-89)

This qualitative action research agenda supports the idea of keeping *discursive accounts* relative to *real-life social learning scenario events*. Indeed, Don Bannister⁶⁰ views 'reflexive theory', as underpinned by Kelly's PCT, as an appropriate research method, leading to a *three phase* creativity cycle of *managed ideas*:

1. initial brainstorming as a loose construing process - *idea capture phase*;
2. key issues focused into an operation strategy as a tight construing process - *idea development phase*;
3. project control through a "recursive-cycle" - *operational management phase*.

These three phases represent a personal project management approach for the action researcher, while fitting in with the policy of the proposed new paradigm ethos. Indeed, the personal management

⁶⁰Taken from 'Human Inquiry', Ch.16 - 'Personal construct theory and research method', [Bannister, 1981, pp. 191-199].

approach of the new paradigm action researcher is regarded by Clark Moustakas⁶¹ as an individual discovery process, leading to the "total person as research method" paradigm.

The new paradigm research methodology is also advocated by Malcolm Parlett⁶² as a form of illuminative evaluation, which endorses the importance of understanding the unique context of an action research real-life social learning scenario - or setting :

"A .. requirement is to discover the individual biography of settings being examined. Each is unique in identifiable ways. ..The experiences of individuals, vivid and 'subjective' as they are, are closely tied to the intimate, familiar nature of their programme - its history, personalities, and prospects. Illuminative evaluation places considerable emphasis on discovering what people view as the defining qualities of their setting and on conveying a programme's essential character in any evaluation report. Failure to capture a recognizable reality may lead to a report being rejected out of hand."
(pp.223-224)

⁶¹Taken from 'Human Inquiry', Ch.18 - 'Heuristic Research' (pp.207-217) [Moustakas, 1981]

⁶²Taken from 'Human Inquiry', Ch.19 - 'Illuminative evaluation' (pp.219-226) [Parlett, 1981]

Parlett recommends 'open-ended' field-based evaluative accounts, along with other parallel studies, as a form of internal checking via an analysis procedure for methodological 'triangulation' of issues:

"Illuminative evaluations rely extensively on interviews and observing in the field, along with analyses of documents collected and short questionnaires often open-ended in structure. The study of stored records (e.g. student statistics/admin. profile) often forms an integral part of an in-depth programmatic investigation. Using different techniques in parallel also provides for internal checks. Each method has limitations and there is often an advantage in combining techniques and triangulating on issues from different directions methodologically. ..The heuristic design outlined here is such that modifications in the study can be made as emerging themes dictate leads to be followed up - with a switching of investigative resources - (allowing for) progressive focusing on selected phenomena. ..One cannot report everything - the selections about what to include are best made in the field.." (pp. 222-223)

Parlett recommends that each observational and reflective period is *recorded as a data record* by the action researcher, supporting the SOL philosophy of keeping personal learning biographies as a means of action research personal log/account.

The values of the illuminative evaluator - or new paradigm action researcher - can be summarised as follows:

- protector of individual rights and privacy;
- holistic outlook in order to examine wider contexts;
- responsiveness to questions, uncertainties and 'changeable' nature of study;
- interim analysis of emergent themes from field data;
- extended negotiation beyond initial aims and needs.

fig.(3.10) Table of Comparative Concepts linking SOL language constructs to those from the New Paradigm Social Psychology

<i>SOL - Construct Conversational Paradigm</i>	<i>Construct - New Paradigm Social Psychology</i>	<i>Descriptive Summary of Underpinning Rationale</i>
'Systems 7' SOL environment	Social Learning environment, scenario or setting	Both depict a 'real-life' social situation from which to operate action research within
Life & Relevance Learning Conversations	Social Learning Proposals	Both purport the need to determine the action research 'purposes' based on the social needs of the 'setting'
Action Researcher as a S-O-Ler	Total person as research method	Both paradigms recognise the importance of the action researcher's personal development and learning
'Raw-data' elicited as items of personal experience	Analysis based on 'social-episodes' recorded over time	Both recognise the 'open-ended' and unpredictable nature of real-life action research, supporting the idea of keeping time-based logs/accounts
Equanimity of action researcher operating within the SOL environment	Congruent social relationships between action researcher and other social beings	Both see the action researcher as operating on an equal basis to other persons involved in the action research field - i.e. social parity
The Personal Learning Biography as a Project Management research method	Triangulation of social evidences, using a variety of sources and methods	Both paradigms view evaluation in terms of on-the-job feedback records and biographical accounts of persons involved in the research field
SOL-Kelly 'modelling' techniques using Conversational Tools for personal evaluation	Discursive analysis of real 'strips-of-life' obtained from the social field	Both paradigms use a conversational or discourse approach towards qualitative analysis, as an experimental means of evaluation
SOL Conversational Paradigm as a praxiological action research method	New Paradigm Social Psychology methods underpinned by an ethogenic framework	Both paradigms share a similar approach towards action research, with SOL defining a clearer rationale that underpins Harré's ethogenics
SOL Central axiom is the enhancement of an individuals Capacity-To - Learn	Defines the action research culture of learning through social experiences	SOL differentiates from new paradigm social psychology by defining learning as a C-indi's life-long development of one's Capacity - To - Learn

In terms of my own professional development as an action researcher - wishing to learn from the active experience of implementing 'vision' - I feel that Richard Winter⁶³ best summarises the professional purpose of my project using Elliot's definition of action research:

"Action research might be defined as:- the study of a social situation with a view to improving the quality of action within it. ..(The) total process - review, diagnosis, planning, implementation, monitoring effects - provides the necessary link between self-evaluation and professional development" (p.3)

In conclusion, the new paradigm social psychology approach to human inquiry implies a *new action research agenda*. However, from the sources so far quoted, we only have clues suggesting the new experimental approach to be followed. My aim is to make sense of the new paradigm methodology, by *linking it firmly* into a SOL-based philosophy and thus transforming it into a praxis for delivering action research. Action research, as defined by SOL, focuses on individual personal learning systems, developing a deeper and on-going Capacity-for-Learning. This results in a quantum leap development of individual skills, personal competencies and creativity. For example, whereas the ethogenic approach defines a framework for action research, in identifying a social learning real-life field, only SOL *defines how to develop* the real-life field, using learning-tools such as Systems-7. My concern here is to *integrate new paradigm ethogenics* into a practical SOL-based conversational paradigm. The equivalent languages adopted from *both paradigms* are compared and summarised in fig.(3.10).

⁶³'Learning from Experience. Principles and Practice in Action Research', [Winter, 1989]. Winter quotes from John Elliot's Working paper No. 1 for the London-based Schools Council entitled 'Teacher-Pupil Interaction and the Quality of Learning', published in 1982.

Thus, from all the influences I've selectively researched - as part of my own learning experience - the SOL new paradigm action research praxiological⁶⁴ agenda that I propose to follow in the IT Workshop can be summarised as:

1. Devising and implementing a social learning proposal:

- Identifying the social learning field parameters within the S-O-L Systems 7 paradigm.
- Negotiating the application/topic purposes with persons involved in working in the action research field defined by S-O-L Systems 7. That leads to a 'symbiotic-needs' action plan agenda, according to the ethical responsibilities of social parity.
- Benchmarking the key planning and on-going development phases as action-events on a chronodevelopmental 'time-line'⁶⁵ account - i.e. recording the real-life unpredictable field evidences as 'historic' events.

2. Identifying and developing the conversational tools needed:

- Project management of the S-O-L Systems 7 organisational domain via own log/account and in-field evaluations/records - for ultimate transfer to a field-based 'open-schedule' time-line.
- Project management of 'action-researcher' domain via own biographical log/account - for transfer to a personal 'open-schedule' time-line representing own key learning events as conceptual paradigm shifts.

⁶⁴The following 'research agenda' underpins the IT Workshop practical activities covered in chapters 4, 5, 6 and 7, thereby *defining* the *action research process* undertaken by myself in the context of my own college.

⁶⁵Time-Lines are conventionally used as a 'top-down' project management tool [Symantec, 1991], i.e. as a means of imposing an organisational policy according to an event-time schedule. My criticism is that this conventional process tends to assume an 'up-front' 'fixed-plan' vision, lacking in social parity. The new paradigm time-line record, however, represents an open-ended process for retrospectively capturing/recording significant project field events in the form of a chronodevelopmental account - so as to help both investigate and identify the learning relationships between key domain events occurring over time.

- Tools and learning aids for recording:- reflecting and 'MARSing' as a means of conversationally evaluating evidences, experiences, accounts etc. - e.g. on-the-job developmental learning through conversational data-capture methods including: logs, feedback conversations, repertory grids, questionnaires, PLC student records etc.
- Triangulation of evidence analysis process, e.g. discursive discourse procedure applied to Factorgrams and repertory grids etc., compared to conversational accounts made by persons from the action research domain etc. This constitutes the 'social learning findings'.
- Retrospective accounts of personal and social learning scenario time-line event maps - identifying key learning relative to experiential event-time relationship charts.

This concludes my action research of the theoretical framework underpinning the 'thinking' behind my field actions.⁶⁶ I feel that my own learning has been demonstrated through both the organisation of these chapters and the interleaving of ideas and theories across the three key fields of interest investigated. As such, I have tried to share my thoughts via a combination of organised selected quotations and interpretative analysis - building the personally constructed models that underpin the *being* I have now *become*.

The reflective practice of my own personal learning is a description of influential experiences that have affected me into becoming what I am now. My earlier personal influences were initially derived from the community of scientific and educational working practices.

⁶⁶Evaluations of the above 'field actions' using the above conversational tools and procedures are carried out in chapters 4 and 5. The main evaluations, however, are carried out in chapter 6 - Action Research Results and Conversational Evaluations from the IT Workshop Project. Please note; 'Social Field' has been used as a generic term applied to the 'field-context' of the IT Workshop. The IT Workshop is therefore an example of a 'Harré-type' specific 'social-setting', but developed as a Systems 7 SOL environment.

This has led me towards being a pragmatic realist - i.e. I am a meticulous organiser of resources because my *being* is about making *real things* happen. That is, I wish to convert theoretical ideas into practice, implying a personal tendency towards being an applied philosopher.

My contemporary experiences of being a *self-organised learner* , however, have made me aware of the *conversational science paradigm* towards living and acting one's social life, which has inclined me humanistically. Thus, I see myself now as a *pragmatic humanist*, wishing to *develop knowledge* through congruent and self-organised social learning relationships in the context of my IT Workshop team-based setting. This puts into action the '*social-learning*' intentionality underpinned by Kelly's *sociality* corollary.

I therefore strongly believe in what Jacob Bronowski⁶⁷ had to say about nature, human relationships and relativity:

"We find again in nature (relative to conceptual modelling) something which seems profoundly to correspond to the way in which our own social relations join us. (p.96) ..Relativity is the understanding of the world not as events but as relations. (p.254) ..History is not events, but people.. ..it is people acting and living their past in the present. (p.438)"

As the action research follows a conversational paradigm approach, it is intended to develop an overall policy of self-organised learning that will manage the on-going situation of the IT Workshop. If successful, the IT Workshop should outlast the length of this action research project and become a central IT core skills workshop for my college, offering a uniquely flexible service to a diverse range of students.

⁶⁷Taken from 'The Ascent of Man', [Bronowski, 1973].

A central objective is to integrate diverse student target groups as a co-operative of group learners within an open-learning styled educational environment. This IT environment is capable of delivering its own core IT curriculum while, at the same time, developing the personal SOL skills of the individual learners, including the IT staffing team.

The detailed development programme followed by this action research project is now covered in chapters 4 through to 6. The underpinning processes have been illuminated in these last two chapters.

CHAPTER 4 : SOL Systems 7 and the Personal Learning Contract in Practice

It is clear from all the background research in chapters 2 and 3 that I have integrated a new paradigm experimental approach as part of a SOL action research agenda, based on developing a congruent social relationship between myself, colleagues and students in the IT Workshop. This humanistic policy of social parity is intended as the ethical 'central-plank' to the overall SOL Systems 7 management of learning policy for the IT Workshop. This chapter concentrates on the practical implementation into the IT Workshop of the SOL Systems 7 learning environment. The SOL PSOR (Purpose, Strategy, Outcome, Review) management process is also adopted and used as a project management conversational tool from which to explore the differences between the conventional and flexible learning delivery paradigms. The PSOR has also been employed to both explore and define the learning management process underpinning the SOL Personal Learning Contract adopted for use in the IT Workshop. The PLC has been integrated into the tutorial system which manages learners following IT courses as part of the IT Flexible Module (ITFM) programme.

4.1 Rationale behind a systems approach to managing the IT Workshop - The original action research proposal

The origins of the development began in May 1990, when the college wanted to set up core skills workshops centred around the library (see fig.(1.1)) and asked me to be the IT Workshop manager. I decided at that juncture to integrate the proposed development as part of my own small scale action research project.

- (1) S.O. I. I. Learning Coach (1) :-
- (2) Course R & D :-

fig.(4.1)

12 FLEXIBLE LEARNING Development Schedule 1990/91/92

Development Target	Summer '90	Autumn '90	Spring Term '91	Summer Term '91
Resource library management model:- Smart card intro:- split card into:- split of student.	Research & meet card systems spec. Research system to spec. 10 hrs of hours.	Given go-ahead to system. Implementing system into the system.	Topic ready to start students as part of library management.	Feedback results of hours left & year development report.
Negotiation of student pilot groups for "reductionist" model	Research & meet card systems spec. Research system to spec. 10 hrs of hours.	Implementing system into the system.	Topic ready to start students as part of library management.	Feedback results of hours left & year development report.
Keyboards & Generic I.T. resource centre	Research & meet card systems spec. Research system to spec. 10 hrs of hours.	Implementing system into the system.	Topic ready to start students as part of library management.	Feedback results of hours left & year development report.
Physical resources: for general IT resource centre.	Research & meet card systems spec. Research system to spec. 10 hrs of hours.	Implementing system into the system.	Topic ready to start students as part of library management.	Feedback results of hours left & year development report.
Human resources: for general IT resource centre	Research & meet card systems spec. Research system to spec. 10 hrs of hours.	Implementing system into the system.	Topic ready to start students as part of library management.	Feedback results of hours left & year development report.
Courseware resources:- Generic I.T. support.	Research & meet card systems spec. Research system to spec. 10 hrs of hours.	Implementing system into the system.	Topic ready to start students as part of library management.	Feedback results of hours left & year development report.
Courseware resources:- Course Specific i.e. I.T. modules	Research & meet card systems spec. Research system to spec. 10 hrs of hours.	Implementing system into the system.	Topic ready to start students as part of library management.	Feedback results of hours left & year development report.
IT. modules:- BTCC courses	Research & meet card systems spec. Research system to spec. 10 hrs of hours.	Implementing system into the system.	Topic ready to start students as part of library management.	Feedback results of hours left & year development report.
I.T. modules:- C&G 7261/400	Research & meet card systems spec. Research system to spec. 10 hrs of hours.	Implementing system into the system.	Topic ready to start students as part of library management.	Feedback results of hours left & year development report.
I.T. modules:- CIG 7261/401	Research & meet card systems spec. Research system to spec. 10 hrs of hours.	Implementing system into the system.	Topic ready to start students as part of library management.	Feedback results of hours left & year development report.
I.T. modules:- CLE 7261/402	Research & meet card systems spec. Research system to spec. 10 hrs of hours.	Implementing system into the system.	Topic ready to start students as part of library management.	Feedback results of hours left & year development report.
I.T. modules:- C&G 7261/800	Research & meet card systems spec. Research system to spec. 10 hrs of hours.	Implementing system into the system.	Topic ready to start students as part of library management.	Feedback results of hours left & year development report.
PSA. Clait.	Research & meet card systems spec. Research system to spec. 10 hrs of hours.	Implementing system into the system.	Topic ready to start students as part of library management.	Feedback results of hours left & year development report.
[GCE] RSA. Case study.	Research & meet card systems spec. Research system to spec. 10 hrs of hours.	Implementing system into the system.	Topic ready to start students as part of library management.	Feedback results of hours left & year development report.
[GCE] RSA. Comparative study.	Research & meet card systems spec. Research system to spec. 10 hrs of hours.	Implementing system into the system.	Topic ready to start students as part of library management.	Feedback results of hours left & year development report.
C&G 953 Comp. kit.	Research & meet card systems spec. Research system to spec. 10 hrs of hours.	Implementing system into the system.	Topic ready to start students as part of library management.	Feedback results of hours left & year development report.
Comp. Studies Unit. (for I.S.)	Research & meet card systems spec. Research system to spec. 10 hrs of hours.	Implementing system into the system.	Topic ready to start students as part of library management.	Feedback results of hours left & year development report.

at times Monday 1.1.8
 leading to I.T.S.
 Int. Tech. Boac?
 and Comm & E&E.

Open Access Communication Workshop

fig.(4.2)

Development Schedule 1990/91

Development Target	Summer '90	Autumn '90	Spring '91	Summer '91
Basic Communication Skills	Identification of F.T. courses & target groups	Diagnostic testing & completion of F.T. courses. Lecturer	F.T. Courses lectured	Testing Evaluation
Basic Study Skills	Identify materials in workshop	Comes on stream - open access	Prochets in conjunction with ABE	Further depts. INSET
Generic I.T. Skills				" "
G.C.S.E. Communication				" "
A Level Communication	Modularisation	Not available to students	Students on open access	Access basis
G.C.S.E. Information Technology			until Autumn	1991
B/TEC Computer Studies				
B/TEC Engineering				
Comm. Skills certificates	A/E for "Basic Communication"	On stream using BBC BASIC?	Skills above	
C&G 953	Conversion to development & identification of materials in workshop	Microsoft Quick & BASIC - Comes on stream - open access	On stream using Microsoft Quick Conversion to Turbo Pascal	Evaluation & enhancement
C&G 7261	" "	" "	" "	Evaluation & enhancement
R.S.A. C.L.A.I.T.	" "	" "	" "	" "
R.S.A. Case Study / Comp. Study	" "	" "	Try on target group	ad-hoc course - mops supplied
Short courses	Identification of need	Development of materials	Marketing	Evaluation & enhancement
YTS trainees	I.C. & short self applicable	Development of materials	Apr of 90 L discussion	" "
B/TEC Media Studies	Modularisation	Identification of lecturers	Student needs, target groups, marketing etc.	" "
International Baccalaureate		Not available until	Autumn 1991	
Provision of Media Services	Identification of need	Development of resources	Development of guides, software etc.	Marketing → Oct. 91

* Consideration should be given to the delivery of these via a separately established learning support unit

PRECONDITIONS: by July 1990: suitable rooms identified
workshop management team formed
hardware & software on order
infrastructure preparation underway
re. timetabling of relevant staff completed
by OCTOBER 1990: infrastructure complete
hardware & software installed

INTERIM REPORTS: to Academic Board at 2 termly intervals
FULL REPORT: to Academic Board by Spring Holiday 1991
to be followed by discussion & recommendations
further developments & implications,
leading to a

RECORDS OF ACTION:
later services...
throughout.

Current FT, PT courses

Current FT, PT

developments

New

fig.(4.3.1)



Event-Time Relationships Account

Project Management Time-Line Record - Account of Events

Dates	Significant Attributed Events	Flag
MAY-JUNE, 1990	Several tutorials at CSHL with SH-A. Ideas behind SOL introduced and conversational paradigm adopted.	
JUNE-JULY, 1990	Further tutorials introduced the idea of 'Systems 7' as an organisational management model for identifying staffing roles - learning purposes.	
JULY, 1990	First trial of CSHL 'Fuels' reporting and to analyse summary reports as an IT workshop manager - led to personal I.D. of path time-team.	
OCT-NOV, 1990	Initial A-re steering tutorial to discuss student learning systems breaking SOL - non-play investigated solutions based on 3-stages and the PLC.	
DEC, 1990	The PLC as a 'management learning systems-based' heuristic introduced. Ideas behind 'student interaction learning models and CIRA' - person in hybrid.	
DEC-JAN, 1990	Process management of learning models first identified - learning conversations first tutorial at CSHL day close colleagues.	
JAN-APRIL, 1991	The idea of the CSHL PLC first introduced and adopted for managing the student learning process re IT modules -> DTP plan design.	
APRIL-JUNE, 1991	PLC & FLC theory applied and interpreted by myself in conversation with tutors at CSHL -> applied to SOL learning plan -> U.D.T.	
APRIL-JUNE, 1991	Taxonomy of PLC tools restructured and designed from tutorial to be, A-R LCT at CSHL.	
OCT - 1991	Tutorial with SH-A re SOL students study for - multi-rating, such as PER summary of responses. Sample of IT students & Gen. Ch's.	
OCT - 1991	Conversation with A.B. re: admin. & tech. support. - held to comm. more with V.P. - meetings & reports re dev.	
OCT - 1991	Investigated/bugged 'relationships' between course tutors, common skills, programme & learning support unit tutors.	
NOV - 1991	Realised that HRE is a fn of personal sol, learning environment physical & human resources, degree of personal freedom.	
NOV - 1991	Completed a new exp. grid re: my own learning re: IT dev. in venv. Idea of LCT for Process Analysis of man. learning systems investigated.	
NOV - 1991	14/11 - Self Help Group - discussed PLCs & role of learning work.	
DEC - 1991	Need for a PL-Element self-education tool - developed 5/grams. Greg interested in 'trial' method to elicit submerged ideas for BT.	
JAN - 1992	BT - 'Brainstorm' workshops at Tavistock - think-tank session. Process Map System -> idea dev. process as a p.m.s.	
"	Structured approach to meaning derivation via a systems approach of personal explanation: 'Idea Man Process' -> part of 'Learning Policy'.	
FEB - 1992	Logged links between events/processes and ans/HRE real-support paradigm of the C-Grid.	
MAY - 1992	R-Grids with John, thlog & Pete	
June - 1992	SOL linked to personal empowerment & self responsibility linked to proactivity and enablement of one's pms.	
"	IT LMP I exhibit -> man. Process chart demonstrating between the BT & PLC & the IFPA 04-724 cases.	
"	Gestalt theory linked to processes of personal 'forms' of CC.	

Action Researcher

Steve Coombs

Project

Ph.D - Initial developments

Domain

Personal-assessment

SC/timel/CSHL/4.94

Time

Record Date

26-4-94

CONTD. V

fig.(4.3.2)



Event-Time Relationships Account

Project Management Time-Line Record - Account of Events

Action Researcher

Share Exports

Project

Ph.D. - A-the Job demands

Domain

Personal - as action research

Dates	Significant Attributed Events	Flag ②
JULY - 1992	Related personal org. man. as means of work as a dynamic process - Dynamic work process with active-support relationships.	
SEPT - 1992	First running of FFE & IT combined ITFM course programme. Interesting case study student benefiting from flexibility of course.	
OCT - 1992	Tutorial with S-H-Austein - idea of SOL & Learning Plans discussed ⇒ UOT as a T-C. C.T. for FFE course authoring.	
NOV - 1992	John used 'E-Grid' to downsize IT-Cent. Ed. project res. group spec.	
" "	Key reflection record w.r.t. learning organisations :- [6 points]. - Change Man. best achieved thru 'cum. dev. (see list on log.)	
.4 1992.	Other interim evaluations recorded & by re-problems of action research. Learn't of John's change of attitude re:- prof. practice of knowledge.	
NOV-DEC 1992	Designed 'budgetary' as a useful C.T. to enable 'easy' independent analysis by staff.	
JAN - 1993	Designed 'Personal Log of Reflections' to aid research of Ph.D. changes. Designed principally as a research support - not a conversation.	
JAN - 1993	Interesting evaluation feedback from J. Venting - C.T. Ed. IT student re:- her own learning - accounts + Change C.T. on S.C.	
JAN - 1993	SOL tutorial - seminar re 'Q' & introduction of SOL A.R. programme. SOL culture c.p. accepted norms criteria procedure - seminar	
FEB - 1993	Linked FFE report 'person' to own practice since 1990. Zilmer's Evaluation article from Human Training supports 'small-scale AR projects.	
MARCH - 1993	Interesting 'Eure-study' ITFM IT student re:- SOL & personal experiences. Obtained:- self-esteem, C.T. OTC + Job in Learning Organisation.	
APRIL - 1993	Investigated the underlying 'process' behind the management of the discovery learning 'exercise'. - Linked to PMS/Reflection shell.	
MAY - 1993	Problems of continuing AR in new policy due to own role uncertainty. Interesting evaluation with Paddy Maler with use of Spilley am.	
JUNE - 1993	Tutorial with Sheila discussing 'translation' procedure as a foundation qualities for qualitative research evaluation.	
JULY - 1993	Problems of accounts for unpredictable 'times' of reflection with/without students ⇒ inter-module evaluation 'exercise' - before they leave.	
SEPT - 1993	Chaos due to disorganisation of new FFE - builders + students!	
OCT - 1993	Lost 'research-day' (free-panels) but given back of the meeting between V.P. & S.H-A.	
OCT - DEC 1993	Use of SPSS - using factor analysis - to analyse PFEs obtained from sample groups of students - Used P. Buro III + data-files.	
DEC - 1993	Developed 'factory man' C.T. & talkback for factor analysis analysis.	
JAN - 1994	Received Betty's FFE report - interesting evidence - evaluation. + report of ITFM student successes from exam office sheets.	
" "	CSHL - seminar :- role of A-Researcher - Social paragraphs. social parts 'why' paradigm realised - personal org. model method.	
FEB - 1994	Invitation accepted at Fulham for interview/workshop on 'optimising' at UCL. New paradigm in research methods linked to SOL techniques/philosophy.	

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Time

Record Date

3-5-94

fig.(4.3.3)



Event-Time Relationships Account

Action Researcher		Dates	Significant Attributed Events	Flag
Project		July - 1992	Interview for PL 'co-ordinator' job at Selkirk - interviewed and short-listed, but wasn't successful.	
		July - 1992	Staff meeting at very end of term re-organisation, scrapping of Technology dept., to separate curriculum groups	
Plate Boards.		Sept. - 1992	Meetings re: - new college merger + proposals	
		Oct. - 1992	Discussion with C.G. for IT/Programming/Electronics :- Collected in records from PL co-ordinator, F.O.A. and myself for reconsideration + own exhibit disseminated. Meeting with V.P. illuminated that DES and myself were disqualified from IT management posts.	
Project		Nov. - 1992	Large meeting re-assures staff that PL will be built into curriculum support + mission statement of college strategy plan 1993-1996 + PL/IT workshop provided.	
		Dec - Jan 92/93	Sponsorship for IT workshop peer-students agreed to by Denver Engineering and Lloyd's bank.	
P.D. - A.R. scenario		April '93	re-organisation of PL support centre.	
		May - June '93	CG IT/Electronics scrapped with IT/computing merged into Maths' C.group 1. PL/IT job went to extend of maths!	
Domain		July - Sept '93	IT workshop 'dissolved' to be re-built as part of new PLC in Treasurer - twice the size + ITFM's integrated into new centre.	
		Oct '93	Buildings finally completed work, students settling - arrival for some '6 weeks' amid the confusion.	
IT workshop/PLC SAC		Sept - Dec '93	Staff morale low due to disciplinary procedures + imposition of new 'CEF' contracts, designed to worsen conditions/serve	
		Jan '94	First student results of new ITFM's - ~100 students (mixed) with ~200 awards 'all achieved thru' flexible delivery/managed programme - see exhibit/sheet/plant.	
		Feb '94	Heidi, Jonathan, Mark - offered jobs/HE as follow-up from ITFM's.	

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Time

Record Date

3-5-94

Project Management Time-Line Record - Account of Events

fig.(4.3.4)



Event-Time Relationships Account

Project Management Time-Line Record - Account of Events

Action Researcher

Steve Coombs.

Project

AD - Field Developments

Domain

IT workshop - social field

Change - Mon / IT FL
& College re-organisation

Dates	Significant Attributed Events	Flag
May, 1990	Project submission for funding of open access core FL workshops	
May, 1990	Memo/report sent to FL Co-ordinator re: IT workshop resourcing needs - social & physical - plus staffing roles.	
July, 1990	IT workshop - progress report 1 - App.B-B3.	
Oct, 1990	IT workshop - progress report 2 - App.B-B4.	
Dec, 1990	IT workshop - progress report 3 - App.B-B5.	
DEC, 1991	OLS article on FL/IT workshop - SOL development.	
APR-July 1992	College strategic plan "1993-1996" - Supports FL/workshops.	
June, 1992	3 dev. plan - IT PROPOSAL + FEEDBACK FROM IT STAFF.	
June, 1992	IT workshop - job description/post agreed to for its position.	
SEP. 1992	Mich's concern re:- IT curriculum groupings proposal.	
OCT-1992.	Memo 30 - re IT submission support problems.	
OCT-1992	Bulletin re:- 'new principal' for St. Austell College	
OCT-1992	Denver sponsorship letter re:- IT workshop shield.	
OCT-1992	Support letter from Sheila Clarkson - adult of student	
Nov-1992	Allen May	
Nov-1992	Memo's - report - IT report re proposal for new college. IT workshop staffing needs report.	
DEC-1992.	Dispute over "black-boardings" in IT workshop - memos etc.	
JAN-1993.	Staffing - model needs - jobs discontinued - letter from Lloyd re:- IT shield sponsorship	
MARCH-1993	Memo 61 - General IT courses/management needs re- reorganisation.	
APRIL-1993	Memo 63 - Org & Man. of IT workshop & general IT course report.	
MAY-1993	IT workshop & FL workshop proposals/memos - Mich's reply.	
June-1993	BILL HILL memo report re:- "communications"	
June-1993	Varios memos reports sent by re & Mich re:- commit to IT provision for PLC proposal and centre in Trenarren "old Sixth Form Centre"	
JULY-1993	Mich's "blackboardings" re: FL memo/report. Memo from principal to V.P. re: my own IT & FL role in new 'setup'	
OCT-1993	Visit by tutor - S. Harri-Angiani to St. Austell College.	

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Referring to both the project initial development schedules in fig's.(4.1) & (4.2), and my own biographical time-lines¹ in fig's.(4.3.1 - 4.3.4) - it can be seen that I spent the summer term of 1990 preparing for the launch of the IT Workshop in September. As part of the SOL background research I learnt about the philosophy of the CSHL conversational science paradigm with my tutor Sheila Harri-Augstein.

This included an introduction to the Systems 7 SOL environment that I have explored as a conversational learning process in chapter 3, section 3.1.2 part 4. I used the S-O-L Systems 7 as a conversational blueprint in order to initially elicit the organisational learning rôles of the IT Workshop. I was subsequently able to make a *social learning proposal* to the FL co-ordinator/librarian and colleagues, disseminating my vision of how the IT Workshop might operate. This initial development phase of the project was achieved primarily through meetings and the sending of written memo's/reports, see Appendix B². This euphoric vision was tempered, however, by the immediate local needs and problematic circumstances of my college at that time - see the other memo's/reports in Appendix B.

¹These 'time-line' exhibits account for both project management events within the IT Workshop - as a social learning scenario 'Systems-7' domain - as well as my own personal development as action researcher. These time-lines will be subsequently referred to throughout the following chapters, with a time-line talkback analysis carried out as part of the action research evaluation in chapter 6.

²Appendix B: Social Learning Proposal Development Evidences. This appendix contains documentary evidences appertaining to the original social learning proposal and feedback reports between 1990 and 1991. There are six exhibits, B1 to B6. In particular, B2 contains the memo/report I sent to the FL co-ordinator regarding the 'Systems 7' rôle-model identification of staff in the IT Workshop - serving as the original 'envisaged' social learning proposal of my action research development.

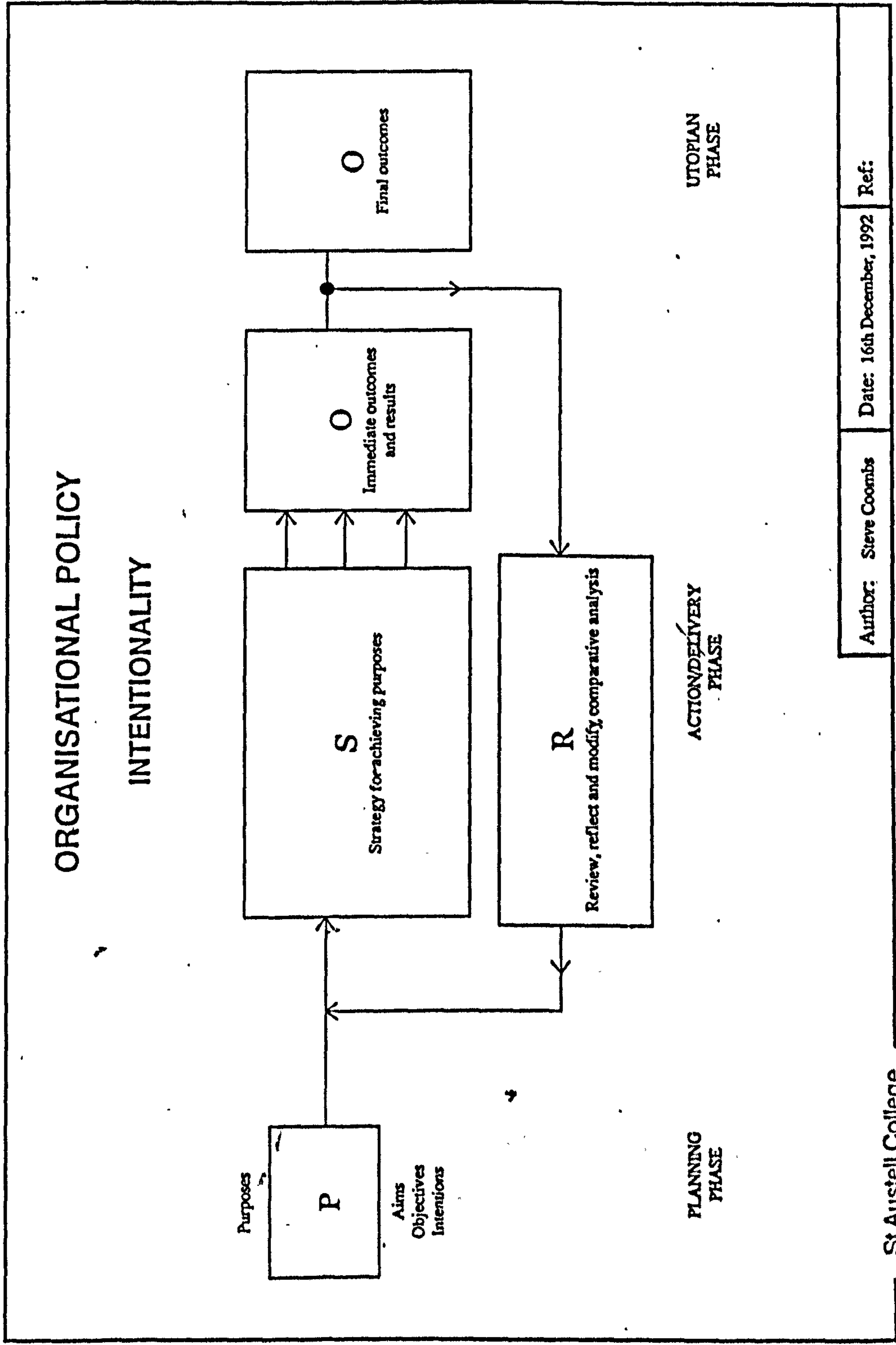


fig.(4.4) The CSHL PSOR applied to the analysis of Organisational Policy Objectives

Despite these initial problems of workshop space, time and money, I was keen to accommodate many of the ideas and needs that my colleagues had expressed, as this made both social and educational good sense - demonstrating the pragmatics of social parity in action.

Because of the problems encountered over the previous attempts to introduce FL in my college, I decided to conduct a thorough analysis of the differences between the two systems of education - i.e. between conventional learning (CL) and flexible learning (FL). By conducting such an analysis it was hoped that implementation 'pitfalls' could be anticipated and overcome.

To achieve this, I was encouraged by my tutor to make use of the SOL PSOR process to define - through conversational analysis - my project in the *context* of the *educational intentions* that SOL/FL represented to myself and colleagues at the time. After many learning conversations between myself, Mike (the librarian FL co-ordinator) and Mick (the communications workshop manager) we established that conventional and flexible learning represented completely different learning paradigms, manifested by alternative delivery processes. From these realisations and *personal learning awarenesses*, I was eventually able to analyse the organisational policy intentions of the IT Workshop - with the help of my tutor - using the CSHL PSOR as a systems analysis conversational tool (see fig.(4.4)).

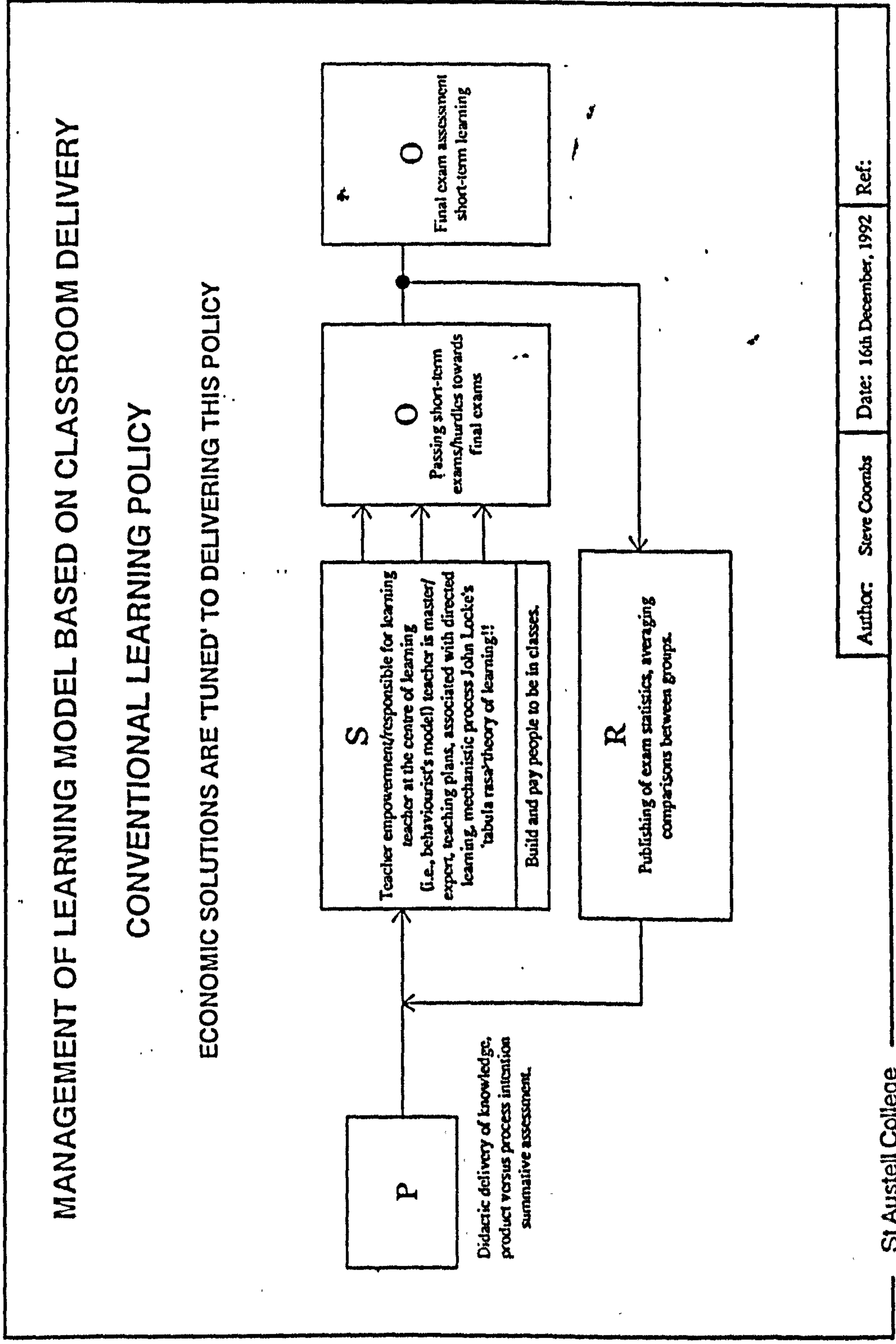
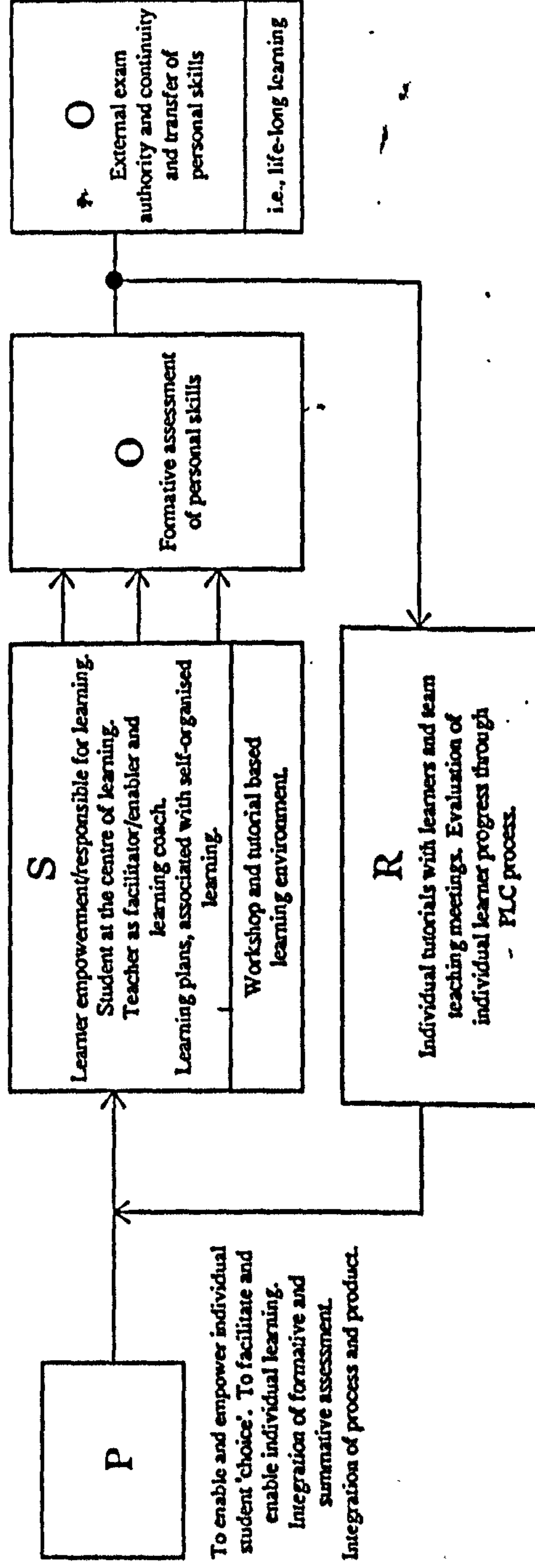


fig.(4.5) The CSHL PSOR applied to the analysis of Conventional Learning Delivery

**MANAGEMENT OF LEARNING MODEL BASED ON THE STUDENT
AT THE CENTRE APPROACH**

FLEXIBLE LEARNING POLICY

ECONOMIC SOLUTIONS ARE NOT YET AVAILABLE TO DELIVER THIS POLICY



St Austell College

Author: Steve Coombs

Date: 15th December, 1992

Ref:

SC/HR/E0/SAC/9.92

fig.(4.6) The CSHL PSOR applied to the analysis of Flexible Learning Delivery.

With the CSHL ideas of PSOR, Systems 7 and the PLC, I was therefore able to adopt a systems (or process) management approach towards the *delivery of education in general*. This led to my personal development of a *systems-based* FL modular curriculum, underpinned and integrated by autonomous SOL skills as the *process*, with IT skills as the subject-based *content*.

4.2 The PSOR learner-learning management model

In order to develop a flexible learning policy underpinned by SOL processes, I used the PSOR organisational policy model in fig.(4.4) to analyse and compare the delivery policies of FL versus CL. This Kellyian *constructivist event* allowed both myself and colleagues to understand the educational processes involved more meaningfully. This led to the PSOR discriminative interpretations of the processes underpinning classroom delivery, versus the flexible learning workshop delivery process - see fig's.(4.5) & (4.6).

It subsequently became clear - from my conversations with colleagues and tutors at CSHL, that if the conventional learning delivery process was to be removed, then another FL/SOL delivery process would have to replace it. It also became apparent that student-centred flexible learning resources were meaningless if the learner was not empowered with SOL personal management skills. From this SOL prior learning requirement the investigation 'blossomed' into a full scale practical development of providing appropriate resources to support such an alternative student curriculum.

This *alternative curriculum* comprising both personal and IT modular learning plans, underpinned by the SOL PLC process which aims to invoke the latter two of the three stages of task-based learning awareness³.

4.3 How SOL Systems 7 was adopted for the IT Workshop

From chapter 3 the five nodes and seven systems proposed for the IT Workshop were identified in section 3.1.2, part 5 - 'The Systems 7 S-O-L environment'. This gave a summative description of the staffing rôles and purposes underpinning the IT Workshop practitioner team relative to Systems 7.

The five nodes identified and highlighted the need for IT tutors to serve dual purposes, i.e. act as both learning coaches to enable SOL 'core-skills' and task supervisor within the IT Workshop domain itself. My rôle as IT Workshop manager was equated to both learning manager within the domain, as well as that of learning director (this rôle was shared with the College's FL co-ordinator, as part of the learning policy committee/group). The seven conversational systems identified the IT Workshop as a social learning centre for all participants, with *learning opportunities* related to the development of both *human and courseware* resources. Thus, SOL and IT skills are integrated and nurtured as part of the conversational paradigm underpinning the FL management of both programmes and learners using the centre.

³Already discussed in chapter 3, section 3.1.2 part 2.

fig.(4.7)

LEARNING MANAGEMENT ORGANISATIONAL MODEL APPLIED TO THE ITWS

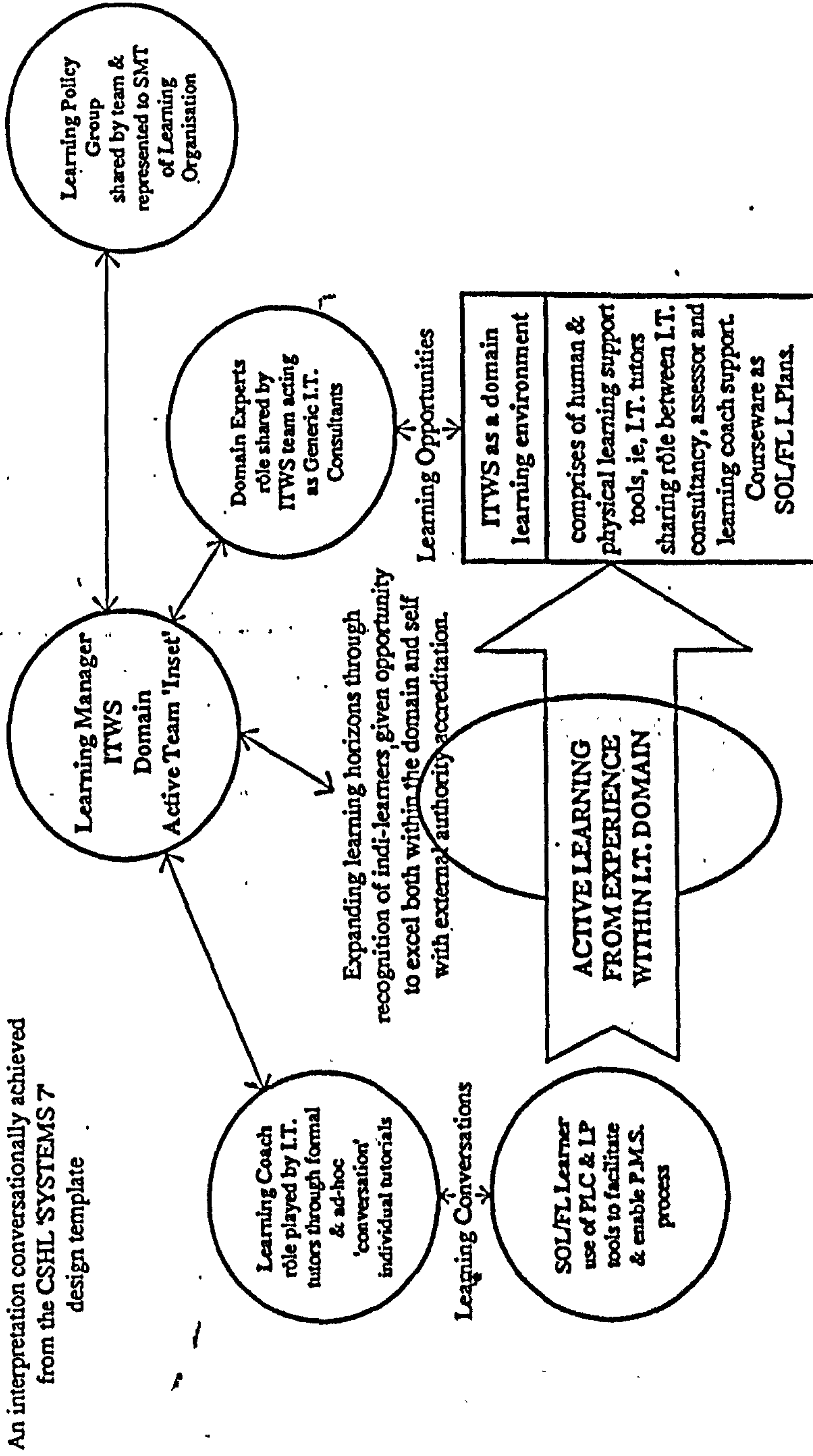
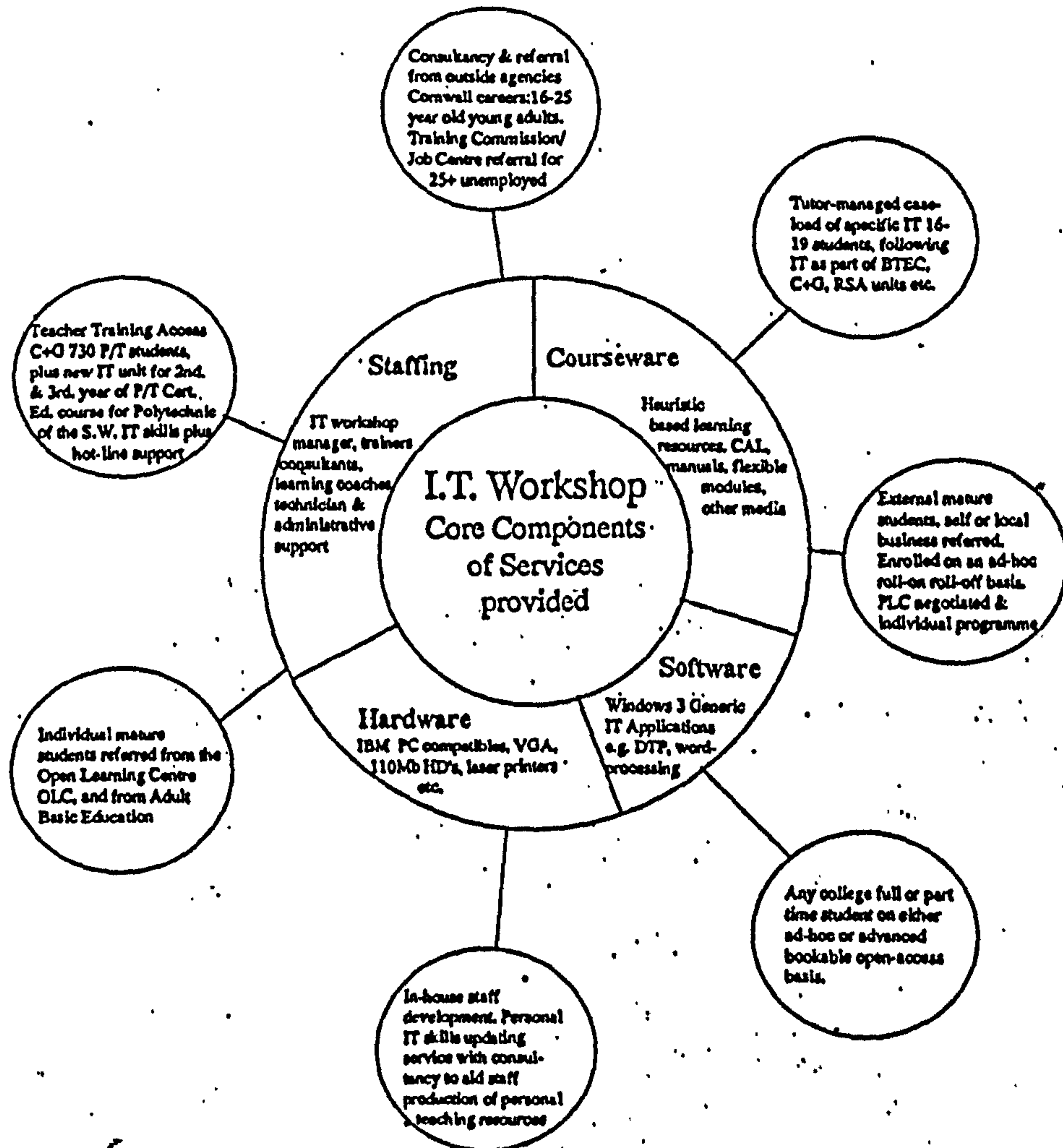


fig.(4.8) Taxonomy of IT Workshop Resources & Access Targets



This unique organisational practice and interpretation of Systems 7 (relative to the IT Workshop project) is illustrated in fig.(4.7), which shows the *conversational relationships* of the 'seven systems' relative to the five *learning* nodes. It was from this original *social learning needs diagnosis*, employing the SOL Systems 7 stratagem, that the taxonomy of IT Workshop resources and student 'access' targets was both determined and systematically planned and argued for within the development. See fig.(4.8) and progress reports B3, B4 and B5 in Appendix B. Fig.(4.8) illustrating the fact that the IT Workshop operates along the lines of both a FL and OL open-access IT centre, servicing a diverse range of student targets referred both internally in the college (from the main student body) and via various external community agencies such as the Careers Service and Job Centre.

All these student targets are integrated into the same IT 'service-centre', thereby *conversationally acting* as a combined human resource learning scenario through potential *associative relationships*. This itself constitutes one of the Systems 7 conversation systems - i.e. operating as the active learning *social experience* dimension within the IT domain. The social learning scenario of the IT Workshop was organised so as to enable and maximise opportunities for the seven degrees of 'open-group' learning freedom to operate (as discussed in 2.2.2).

fig.(4.9) The PSOR - Control Theory Model Applied to Learning Processes underpinning the CSHL PLC®

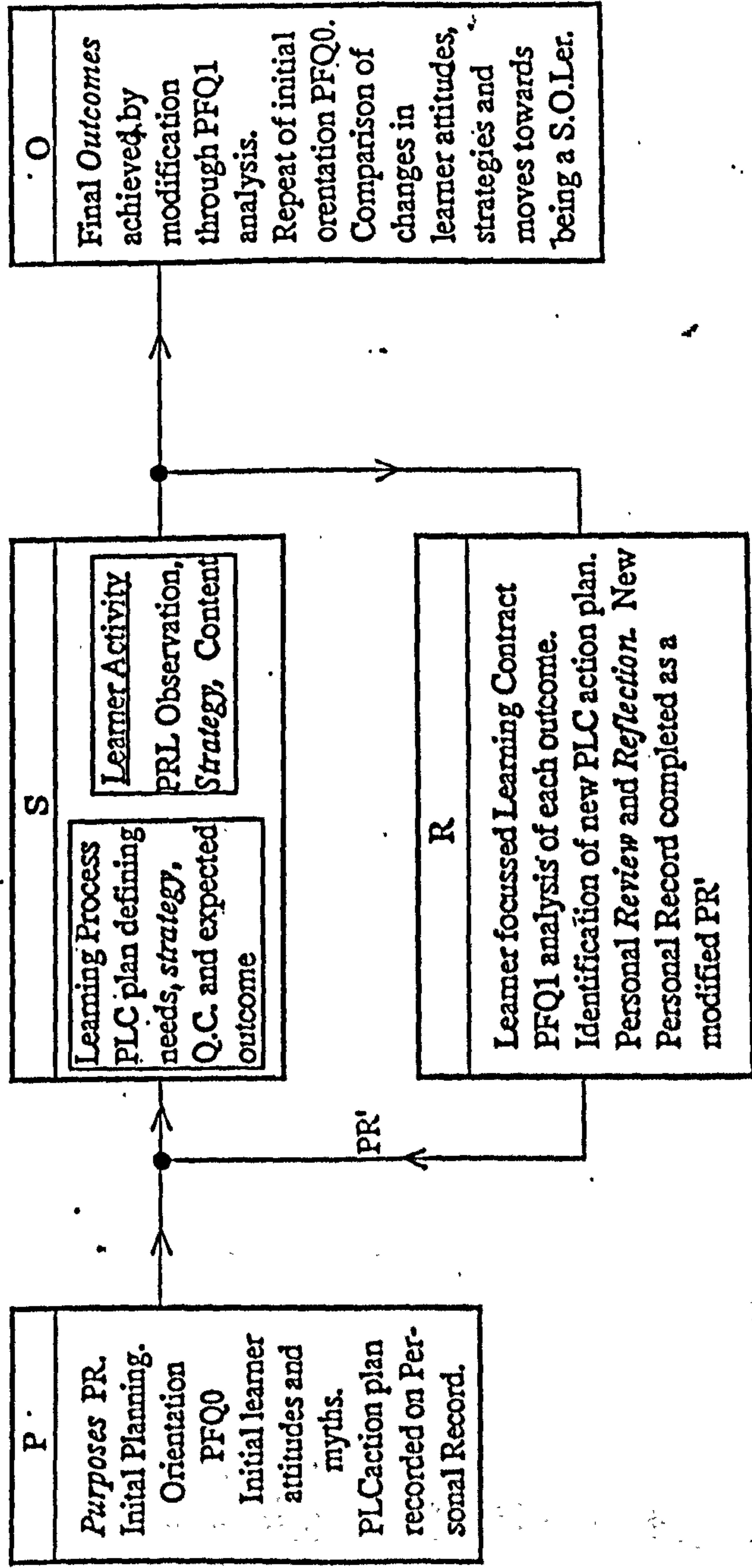


fig.(4.10)

Exhibit of the PLC Personal Record used by IT Learners at Mid-Cornwall College

MID CORNWALL COLLEGE INDIVIDUAL TUTORIAL : PERSONAL RECORD	
Student name:	A. N. Other
Age:	40
Course:	C6 726
Tutor:	S. J. Curmish
Date:	12/12/90
Time:	10.30 am
Tutorial type:	<input checked="" type="checkbox"/> programmed <input type="checkbox"/> ad-hoc <input type="checkbox"/> other
<u>Purpose of tutorial/ Tutor comments:</u> Student is a professional librarian (A.L.A.) Has worked for O.U.P. in publishing and audio products. Wants to improve v.a.u. skills as part of a general communications programme. Will apply skills to own 'antiques' small business. Has attended OLC at Bournemouth, but without success, due to lack of appropriate resources. Career aims:- publishing industry, proof-reading etc., librarianship or resources assistant, research worker assistant, museum, college work.	<u>Problem areas:</u> Has only just moved to Cornwall from Nottingham for the last 6 weeks. She wants to overcome her fear of computers and use of I.T. generally. Wants personal skills to be applied to use of I.T. as a tool to be used in conjunction with professional skills.
<u>Outcomes/ Learning contract agreements:</u> We both agreed the following learning programme: (1) General beginners introduction module :- F.C. tutor. (2) Beginners research booklet / introduction to Sp and H/W. (3) Personal demo., to explain & describe use of Windows 3 desktop. (4) General tutorial in wordprocessing → Commercial; Word for Windows. (5) Catalog skills → Commercial DBase 3.1 tutorial and database project. (6) C6-726 / 400, wordprocessing & proof-reading module/certificate. (7) Possibility of C6-726/401 database methods module/certificate. (8) Further possibility of trainer/training on C6-726 course (will review)	
<u>Future recommendations/ Action/ Appointments made:</u> Above programme to be reviewed and re-assessed in light of any new needs/experience the student can identify.	
Sheet no.	1
Tutor/tutee signatures:	<i>[Signature]</i> A.N. OTHER

4.4 Application of the SOL 'PLC' for tutorial management of IT Flexible Modules

Having established a Systems 7 blueprint for organising the IT Workshop along the lines of a SOL learning organisation, the next stage involved the development of *personal learning plans*. The essential aim was to combine the CSHL PLC process for enabling SOL/PMS skills into the IT tutorial system. From this foundation the PLC process was incorporated into the design of the personal learning plan management structure. This was also to include the negotiation of individually tailored IT (action-based and goal directed) learning programmes in order to satisfy the FL and FE needs criteria outlined in chapter 2.

The CSHL PLC was adapted (as suggested in chapter 3) as a *conversational tool* that could be employed by both the *IT learning coach* and *learner* within the Systems 7 SOL management framework. In order to identify the algorithm behind the PLC process, the PSOR conversational tool was employed (once again) to analyse the learning needs relative to managing an IT tutorial system (see fig.(4.9)).

A number of key learning aids and tools were identified and developed as a means of supporting the PLC process. These included:

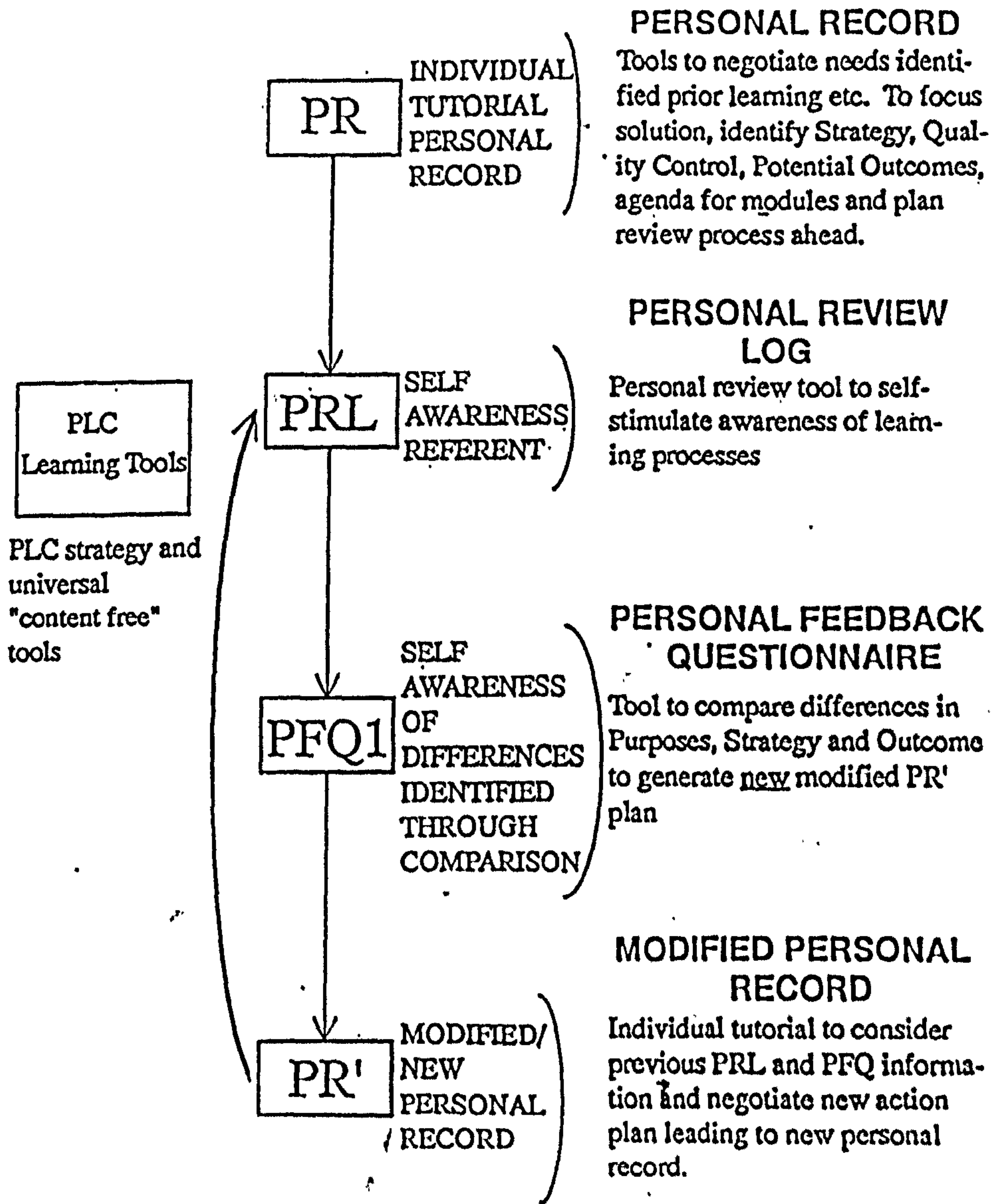
1. A Personal Record (PR) (see exhibit⁴ fig.(4.10)) to identify, negotiate and record prior learning as well as establish learner intentions, personal needs etc. From such a focused learning conversation it is intended to identify and record:

⁴This exhibit is an illustrative example only. For actual student records see chapter 6 section 6.2.3 and appendix F : Student Evaluation Records.

- The emerging purpose behind the tutorial, elicited by the learner themselves - including initial needs analysis via counselling of students as part of their orientation/induction tutorial.
 - Any highlighted problem areas elicited from the conversation e.g. frightened of using computers, lacking in confidence etc.
 - An agenda of learning contract agreements as an outcome of the tutorial. This will include a menu of ITFM modules to be attempted, specific starting points (subject to APLA conversational agreements) within ITFM plans, other relevant activities elicited from the 'life' conversation, e.g. the learner may be primarily looking for employment in the IT field. Hence, an agenda recommendation may be to keep an IT 'job-cuttings' file researched from various sources, from which the learner may 'share' their ideas with the learning coach acting as their mentor.
 - Future actions/appointments regarding follow-up tutorial sessions as part of the PLC management of learning process.
 - Joint signatures of learner and learning coach, 'authorising' the initial action plan recorded on the PR, thereby constituting as the learner's *personal learning plan*.
2. Reflective - awareness raising - biographical log/accounts:
- Active Log - For recording task-based learner awarenesses.
 - Personal Review Log (PRL) - For recording/raising personal learning awareness.
3. Personal Feedback Questionnaires (PFQs) - For evaluating learner attitudes relative to their own learning experiences, myths etc.:
- PFQ0 - Initial and final questionnaire designed to elicit learner attitudes towards their own personal system, i.e. personal skills capabilities etc. The questionnaire is repeated so as to highlight any attitude changes between the start and finish of the modular programme - useful as learning feedback for both the learner and myself as action researcher.

fig.(4.11)

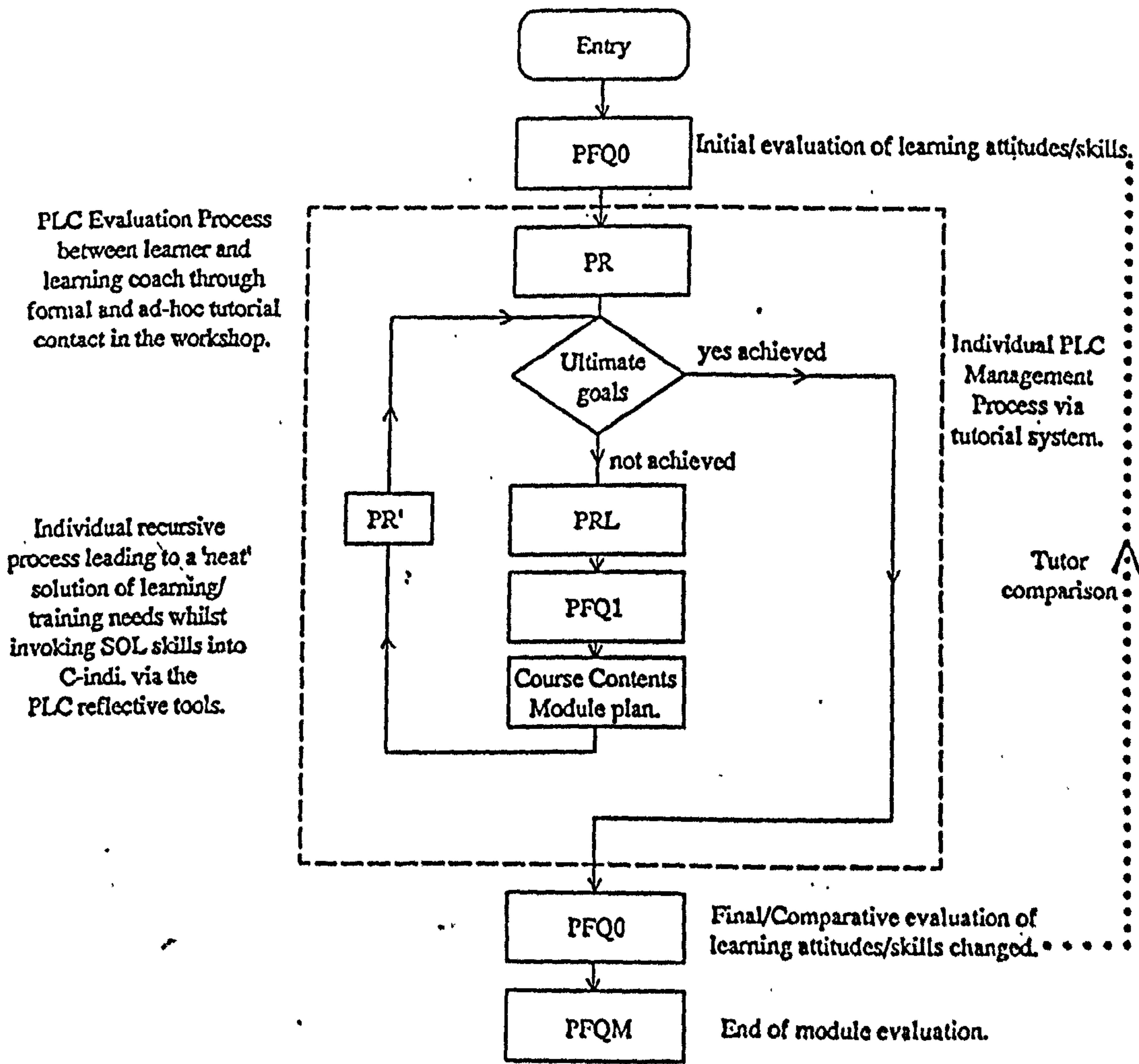
TAXONOMY OF THE PLC LEARNING TOOLS REQUIRED FOR THE SOL STUDY PACK



RECURSIVE LEARNING PROCESS APPLIED TO THE PLC LEARNING TOOLS

fig.(4.12)

Process Management of Flexible Learning
Use of the CSHL PLC^o
Applied to the I.T. Workshop tutorial system at Mid-Cornwall College



- PFQ1 - Questionnaire designed to raise self awareness of the learner's own learning processes during their modular programme. From a PLC perspective this tool helps the learner to compare differences in Purpose, Strategy and Outcome relative to their own programme performance, leading to the generation of a newly modified PR, i.e. PR'.

All of these tools conversationally aid the total PLC management of learning process. This process identified as a recursive systems-based learning management loop related to the PSOR Control Theory Model illustrated in fig.(4.9). These PLC learning tools were identified as components of a PLC taxonomy (see fig.(4.11)), that were brought together as part of the SOL Study Pack⁵ developed during June - October 1991, see personal time-line fig.(4.3.1). From this taxonomy of PLC learning tools, the entire FL tutorial system was identified as a process management algorithm (see fig.(4.12)). The learner evaluations from the PLC process serving the *dual purpose* of enabling learner-learning awareness, while serving as valuable feedback data as part of my own action research findings⁶. This dual purpose design/approach aspired to the congruent needs of both the learner and myself as action researcher, thereby consistent with the policy of social parity described in chapter 3.

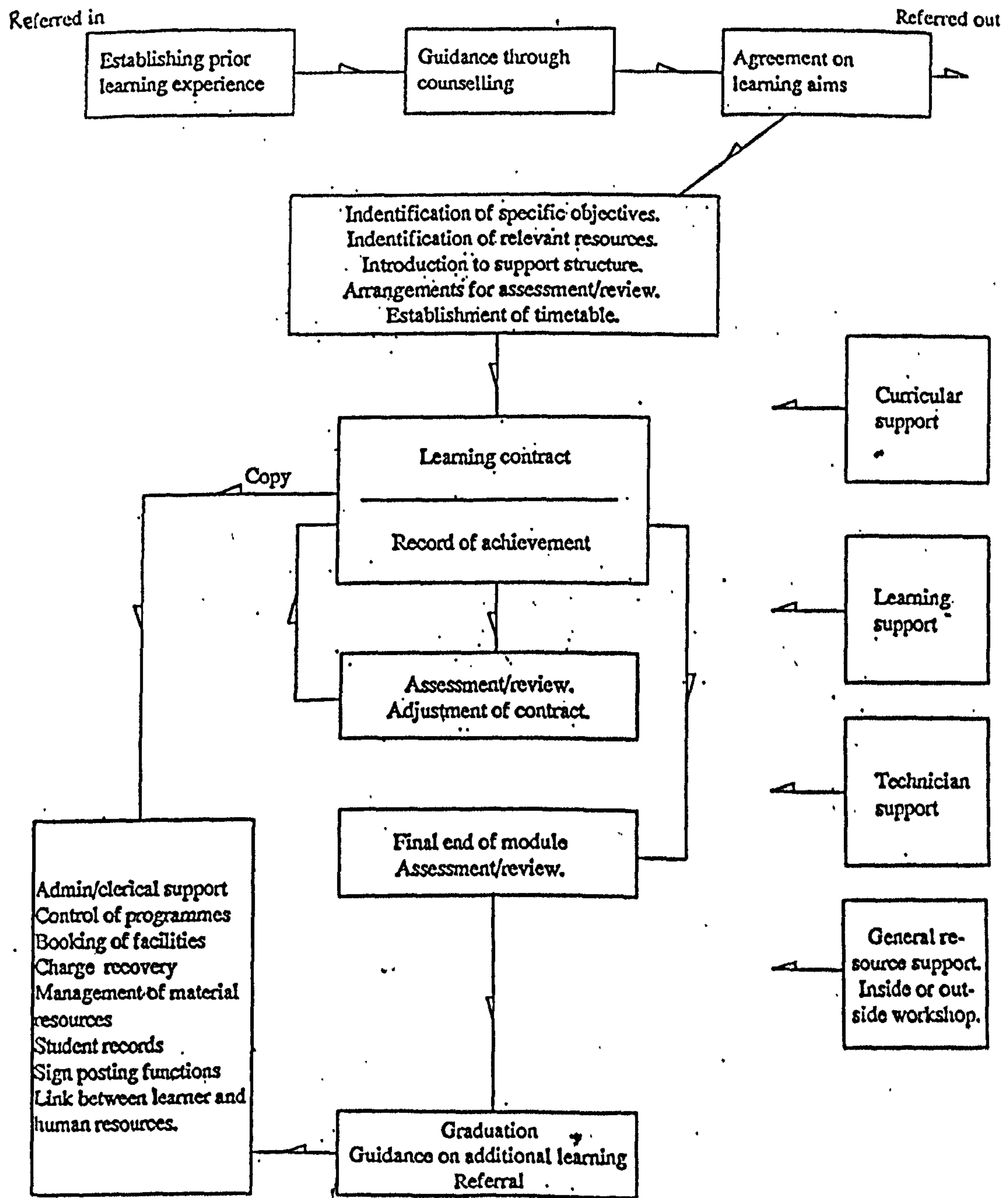
Another 'spin-off' benefit of my work relating process management charts to educational systems, was the joint development between myself and the college FL co-ordinator to use the same method to analyse student support in the college.

⁵Several versions of the SOL Study Pack were produced over the main action research period, including a tutor pack. See Appendix C, which exhibits the SOL Study Pack version 2 - revised during June-July 1993.

⁶See chapter 6 - Action Research Results and Conversational Evaluations from the IT Workshop Project, for the full analysis and design criteria/purposes of questionnaires and other evaluations employed within the PLC process.

fig.(4.13)

Flow Chart for Student Support Structure



This collaborative venture resulted in a flow chart describing the ideal process for a college-wide student support structure (see fig.(4.13)).

The next development stage was to integrate the PLC personal learning management process with the development of IT flexible modules (or ITFMs). This resulted in the development of SOL-based learning plans, which underpinned the authoring of each ITFM programme to be developed. This was achieved by the use of a specially developed conversational tool; the Universal Design Template (UDT). This developmental phase of the action research is covered in chapter 5 and relates ITFM *learning plans* to both the PLC and GLC social interaction development in the IT Workshop.

CHAPTER 5 : The Development and Testing of Learning Plans as Conversational Tools

5.1 Synopsis of the IT tutorial system developed

The IT tutorial system in the IT Workshop 'evolved' as part of my action research development over the last four years. It has so far been related to the CSHL Systems 7 S-O-L management model for learning organisations, of which the IT Workshop system is a bespoke development. Underpinning the tutorial system is the SOL PLC learner-learning management process. This is delivered relative to the nodes of learning available in the IT Workshop, according to a PSOR *conversational-systems* approach, which has been illustrated for the tutorial system as a process management chart in fig.(4.12).

The SOL study kit developed provides the learner with a form of personal management that helps enable individual awareness of the learning process. This chapter looks at the relationships between the IT tutorial system and the development of the IT Flexible Module (ITFM) programme as SOL-based learning plans.

The ITFM system envisaged, was that each learner could operate *autonomously* in the IT Workshop via their own *personal learning plan*. This tailored plan was to be jointly negotiated between IT tutor (as IT task supervisor) and learner as an action plan (task-oriented) agenda. At the same time the IT tutor also acts in the rôle of a learning coach. Thus, an initial assessment of SOL/PMS capabilities of each learner can be diagnostically made through the social relationship of the dyadic tutorial 'encounter'.

The IT tutor therefore performs *dual rôles*, as both learning coach and IT task supervisor. This also means *dual assessment* responsibilities, with appraisal of both *personal management skills* learning development (PMS/SOL capabilities) and IT exam assessments in the form of practical assignments and written tests as part of the C+G 7261 modular scheme. The rationale behind this holistic and integrated approach towards assessment was covered in chapter 2, section 2.2.5.

Each generic IT tutor operating in the IT Workshop has their own allocated caseload of learners comprising full-time traditional student targets (mostly foundation students enrolling in September for the academic year) and roll-on roll-off adults, now called life-long learners, enrolling throughout the year. The *idea* was to mix and integrate all these learning targets, in order to maximise and enable the open-group social learning benefits argued in chapter 2.

To achieve this, a *flexible and alternative approach towards staffing* the IT Workshop has been required¹. This has involved the *major social development* of an IT client-based practitioner team, sharing both individual and joint responsibilities in the IT Workshop.

¹This flexible staffing policy requirement was the most essential and yet difficult of goals to achieve. This is because my action research project had highlighted the need for a Rogerian-styled IT practitioner team. This required both extra staffing support and an alternative approach to funding 'teaching' at the same time. This 'paradigm shift' in my own learning therefore had significant implications for the practical arrangements that had to be argued and agreed by senior staff in my college. The college had always followed a paradoxical policy towards FL that had stymied its development. On the one hand it had a clear ten-year standing commitment towards developing FL through core workshops, whilst on the other hand it refused to staff them, other than by the traditional CL funding arrangement, both an economic and educational confusion of policy. This organisational ignorance tended to play into the hands of those wishing to continue with the policy of CL, genuinely believing that FL was a waste of time and should be avoided at all costs!

In practice this has led to *on-the-job teamwork* with the learners themselves. Thus, since case-loads are individually allocated to each tutor, *all tutors* are required to share the responsibility for *every learner* in the IT Workshop, subject to the following provisos:

1. That tutors are timetabled to be in attendance in the IT Workshop for ad hoc floor-support and IT consultancy in general - i.e. that learners can voluntarily seek help and advice from available IT staff, thus satisfying one of the degrees of learning freedom - informal ad-hoc tutor-learner dyad association. This could therefore happen between *any* learner and *any* IT team member.
2. That there are several tutors *timetabled in parallel*, such that whilst one might be involved in a formally booked tutorial, the other is available for ad hoc support and assessment. Many of the IT modules developed are assessed spontaneously by request from the students themselves, i.e. a policy of 'real-time' exam assessment is pursued, whereby an exam assignment can be called upon by the learner at *a time* related to *their learning development*. The tutor can then time any test and assess it shortly afterwards, provided that the IT Workshop is not too busy and that it is only NVQ level 1. For IT tests at NVQ levels 2 and 3 it is necessary (due to both complexity of the assessment procedure and hence the time required) to ask the student to book a formal tutorial for final examination/accreditation of this higher level IT coursework. This tutorial function involves both marking the assignment and employing an oral assessment to validate candidate understanding of the IT objectives covered.

3. That tutors operate together for the smooth running of the IT Workshop - this operates in practice as direct help and mutual support between tutors timetabled in the same venue.

To achieve these team-based provisos required a certain critical mass of students resident in the IT Workshop, in order to justify the *economics* of double staffing. As a *pragmatic* solution, I 'timetabled' multiple target groups in parallel, as a means of justifying double staffing - arguing to my line managers that each staff member was timetabled to a nominated target group - albeit that in reality staff and groups are intended to operate as a single entity, i.e. function as the wider 'secondary' open-group structure of the whole workshop (see chapter 2). This conventional learning - 'equivalent-group' - funding 'trick' was done in order to satisfy line managers that FL delivery was not an economically soft or weak option, and could thus be justified within *existing funding arrangements* - hence the pragmatic approach, as managers would not pursue the OL/FL funding model policies disseminated for LEAs by Dixon.

The 'down-side' of this pragmatic strategy of mine was that I had to rapidly expand the number of IT courses (and hence student numbers) in order to provide a sufficient critical mass that would *allow* such an IT team to be employed. This meant a doubling-plus of my own workload. However, I managed to achieve this goal through running the ITFM programme for both full-time and part-time students. This innovative solution allowed me to integrate both ITFM target groups in the same venue, whereby I could timetable several staff and integrate them as well.

This policy of integrating groups therefore satisfied both the economic and educational arguments for managing *open* and *flexible group-learning* in the IT Workshop.

This turned out to be a very effective policy and overcame the usual funding problems made by critics of FL in the college. The economic 'spanner-in-the-works' argument usually preventing FL staffing was:

that no teaching staff were (or should be) allowed to be timetabled anywhere unless they had a conventional teaching group.

This blocked any academic staffing input of open-access FL resource areas, unless the lecturer had a full-time group. The 'catch-22' of the argument was: that if staff had a full-time group in the IT Workshop (but were conventionally timetabled for CL delivery activities) then the IT resource area would *no longer be open-access*² and would thus lose its OL/FL group-learning purpose.

This suggests that the 'hidden-agenda' aim of the ITFM programme was that both full-time and part-time courses would have somehow to operate side-by-side along flexible learning lines, allowing *open-access* to the IT Workshop by all other student targets. Hence, the necessity that the IT tutorial system is clearly seen (and successfully operates) as an *alternative process* to normal classroom delivery.

²Owing to the restricted practices of the 'timetabled' staff member being 'tied-up' and solely responsible for the CL group activity only. This CL activity tends to avoid and exclude all others. To illustrate this point, the so-called maths workshop had conventionally timetabled groups operating within it. It had screened-off resources for supposed open-access use, but several of my students complained that they could not use these resources because the atmosphere was un-welcoming, i.e. when one student went into the room, they reported that the teacher giving the lecture raised their voice - in a manner demonstrating disapproval. This led to my students feeling uncomfortable with the venue and withdrawing from its use.

Many of my critics in the college made numerous attempts to discredit the SOL/FL system that I was developing - especially in the vulnerable early stages of the project. Tactics they employed involved:

- Arguing to my line-manager that 'proper CL-styled teaching' was not being pursued by myself and other tutors relative to the 'supposed' full-time student groups operating/timetabled into the venue. This was accompanied by ensuing spoiling tactic attempts to split the team, by having myself timetabled on *alternative programmes* outside of the IT Workshop, thereby dissolving my essential on-the-job co-ordination duties.
- Arguing that the students were somehow 'disadvantaged' if they did not receive a conventional styled lecture-delivery format of learning - i.e. that CL delivery is good and OL/FL delivery is bad.
- That my 'free system' of open-examinations meant that the students would automatically 'cheat' (as students were not to be trusted with their own assessment procedure) and that I was somehow responsible for 'lowering standards'.

These reactionary issues clearly demonstrate how and why it was that FL core workshops had been stymied for so long a period (ten plus years) in Mid-Cornwall College. The social problems I experienced as action researcher also relate to Kelly's 'hostility to change' argument. Hostility to change is related to Kelly's experience corollary, whereby if new experiences lie outside the range of 'expectancy', hostility may ensue³:

" ..hostility is defined as the continued effort to extort validation evidence in favour of a type of social prediction which has already proved itself a failure." (p.29)

³ See 'Perspectives in PCT', [Bannister, 1970].

In the social context of the IT Workshop, the 'social predictions' latched onto by those hostile to my FL development included areas of student discipline and exam results/procedures - exhorting that FL delivery was somehow 'weaker' than the usual CL methods, claiming it would lead to indiscipline and falling educational standards. This claim needs to be compared with the evidence suggesting that CL delivery was already clearly 'failing' many students in the college, leading to their lack of motivation and poor drive in general.⁴

My action research thus opened up a college-wide debate with regards to IT, OL/FL and student support in general. However, I was fortunate in that (whilst I was the 'fall-guy' for FL criticisms in general) my head of department over-rode and generally *turned a blind eye* to these criticisms because it was within his *range of experience*⁵ that he believed that:

- IT FL made good educational/learning sense.
- Ultimately, FL workshops could operate on a better cost-effective basis than CL delivery systems.

⁴See chapter 6 section 6.3.3 - Accounts of Learning Conversations. Where in recorded conversation with one of my tutors, Janet, she discussed the stark differences in attitudes of students on her BTEC NDC course (CL delivered) and the ITFM C+G 7261 programming modules. After asking Janet why she did not enjoy the formal teaching approach adopted with her BTEC group, she fed back to me the following: " It doesn't matter how hard you work - and I really work very hard - ..they're not interested. But I try very hard to make it (interesting) - of course you spend a lot of time looking for the material which is relevant and interesting - but the students are all too demotivated and demoralised."

⁵In Kelly terms, he was not hostile to the FL changes proposed - indeed quite the contrary - because he already had positive *prior experiences* of FL development from his previous college post before joining MCC. From Kelly's experience corollary, he was able to "...successively construe the replication of events ", with respect to *anticipating* FL development in the IT Workshop.

Thus, my developing the IT Workshop was a personally *difficult experience*, embroiled in bitter disputes and confrontations in the early developmental stages. It was not because I was not liked as a person, but more to do with the pragmatic nature and style of my implementing a radically alternative system of education. My observations led me to believe that those who tried to block the venture knew that I was successful with practical curriculum development applications⁶, and feared the implications of any permanent shift towards FL delivery in general. This personal view, however, has also to be balanced by the support I received from many colleagues who wanted to move in this direction, but had previously been unable to do so. Thus, achieving my IT Workshop 'vision' constituted a personal risk to my own career, as well as requiring me to confront the major educational question/principle of: "*how should educational systems be managed and delivered?*" Thus, developing the IT Workshop tutorial system and ITFM programmes caused me to confront this educational issue in both practical and political terms.

Relating my anecdotal experiences to action research in general, it was clear that *any proposed changes* to the system of educational delivery in my college was likely to invoke a Kellyian 'hostility to change' syndrome. This was likely because very few of my colleagues had 'truly' experienced a properly running FL delivery system. That resulted in my proposals being outside their experiential range of convenience.

⁶I had already set-up the 'Microsuite' IT Workshop at the college's West Hill annexe between 1983 and 1987. This development, however, had been donated to special needs education and was literally out of sight of the main student body. The Open Learning centre was also based at West Hill, implying that most educational initiatives involving OL/FL had been done away from the main college campuses.

The action research project aimed to overcome these psychological barriers to change, by attempting to provide a rigorous model for developing the educational systems proposed for the IT Workshop, with the advantage of external body involvement from the CSHL at Brunel University, that could independently 'oversee' the development.

It was therefore the action research process itself that provided both a visible and accountable model for 'test-bedding' the FL/SOL systems employed. The action research model itself is not beyond criticism, but it does provide a wider forum and remit for managing and questioning institutional change-management of its own processes. This manifested itself in creating an on-going institution wide 'conversation' over the issues affecting IT and FL development in general. This occurred from 1991 up to and beyond the incorporation of St. Austell College in April 1993.

Indirectly, this led to the creation of a curriculum support group to include FL delivery system courses. ITFM part-time adult courses were initially incorporated into this cross-college grouping, with the rest of my full-time ITFM courses joining by June 1994.

5.2 Development of IT Flexible Modules ITFMs for 'mixed' learner targets

In order to develop an IT Workshop for 'mixed' learner targets it was essential that an IT practitioner team be developed according to the tutorial rôles and purposes outlined in my interpretation of the CSHL Systems 7 management of learning criteria.

Thus, each IT tutor (myself and four part-time staff) has a mixed case-load of learners allocated from both the full-time and part-time ITFM C+G 7261 programme, covering both generic IT and specific IT (i.e. computer programming modules) application areas. This case-load is dynamically adjusted over the year due to the constant arrival and departure of mainly adult roll-on roll-off students.

Hence, the idea of having an IT practitioner team to share common case loads of integrated learner targets from the ITFM programme meant that *tutors and learners could all socially mix* in the same venue, *independent* of both personal tutor and learning programme being followed. This idea was implemented so as to empower the 'open-group' social learning relationships, that were identified in chapter 2 as the *seven degrees of learner freedom*. These freedoms constituting as *social interaction* group learning associations. The *conversational benefits* from these *group learning associations* are the voluntary formation of formal and informal 'task-groups', group learning association being subject to the *social learning opportunities* available in the IT Workshop at any moment in time.

The PLC-based IT tutorial system therefore operates from within several conversational purposes of Systems 7. One important purpose therefore includes the key opportunity of developing *informal task-oriented learning conversations* with other resident learners in the form of a Group Learning Contract (GLC) - i.e. operating as a socially negotiated extension to the learner's own PLC-managed personal learning plan.

The key *personal learning need* of the ITFM development is to therefore interface the individual IT FL modular course-based programmes with the PLC-SOL personal skills curriculum, thereby providing the IT vocational 'content' as a means of delivering IT knowledge via the *educational context* of developing the learners' SOL/PMS skills. The *life-relevance* aspect of the Systems 7 conversation is therefore achieved through the pursuit of an individually negotiated set of IT modules (flexibly controlled by the learners themselves via GDAs) performed in the IT Workshop. Hence, the large range and scope of the IT training opportunities available provides both the basis and means of negotiating a relevant and personally meaningful agenda of task-based learning activities. That satisfies the 'life-conversation' rationale for motivating disabled learners. With that aim IT modules can then be integrated into the IT PLC/SOL-based tutorial system as an agenda of short-term tasks/goals.

These 'IT tasks' therefore need to operate as a *contents-based curriculum*, in parallel with the SOL/PMS 'skills-oriented' *process-based curriculum*. Hence the action research thesis of developing a *primary* SOL-based curriculum, through integration into a *secondary* IT-based curriculum - i.e. ITFMs with a tutorial support system.

This approach underpins the ITFM *combined curriculum purpose*, which operates in such a way that the learning domains of SOL and IT become symbiotically interdependent.

That implies that one cannot effectively learn IT skills in a FL workshop without the APLA proviso of SOL/PMS skills - but also the contrary case that one cannot develop SOL/PMS skills in isolation, i.e. relevant activities such as IT skills development help to enable SOL through appropriate task-based experiential learning programmes.

Consequently, the SOL study kit was developed to help learners manage and control their experiential learning programmes in the IT Workshop. This aid to learning is supplied with the intention of dovetailing the personal management responsibilities of the learner, into any of the 'agreed' ITFM activities. Thus it acts as a means of enabling autonomous learner-centred control of both task and resources - including the IT Workshop environment itself!

On-going developments of the *IT tutorial support system* led to additional learning-aid records, such as the 'Profile of Conversational Evidences' - used to record on-going⁷ learner evidences of PLC activities, such as the keeping of active and personal review logs etc. Small tutorial rooms and offices were also built and developed as part of the in-house facilities of the centre - i.e. places where individual counselling of the students could occur via the open-tutorial booking-system, with filing cabinets storing tutees' confidential and personal information files resulting from the PLC recording system.

Recognition of the *learning benefits to be gained* through learner-learner conversational encounters in the IT Workshop led to the policy of positively promoting a system of *peer-tutoring*.

⁷The 'Profile of Conversational Evidences' - see fig.(5.15) - acts as a shared tool between the 'learning coach' IT tutor and the learner. It therefore acts as an awareness-raising management tool for the learner to both account and chart their own learning progress - i.e. it assumes a similar *management of learning purpose* to that of the S-O-L 'PLB' process.

I.T. Workshop Learning Policy

Guidelines for students as I.T.W.S. case-load members

These guidelines are designed to help you the students understand the different methods that are employed inside the ITWS to promote your learning, using a Self-Organised Learning (SOL) management structure.

Our goal is to make you 'better' learners generally so that you will improve your personal skills. This is necessary in the world of I.T. because things are in a constant flux of change, such that whilst you have learnt something one minute you will need to re-learn it the next. Thus, you will need to constantly build upon your skills all the time for 'life' both at home, College and work. Your ability to maintain and do this beyond College will be your responsibility. We will endeavour to help you, with the tools and support services developed so far, to both facilitate and enable this process for you the individual student.

Learning Facilitation

This is achieved by having a good College infra-structure of resources, such as the Library services and the ITWS. The ITWS provides a combination of hardware, software, coursework and staffing resources for you to use. It will be your responsibility to make best use of these resources by booking in advance both machine and tutor time through the ITWS receptionist. In order to do this you will need to be pro-active, able to plan ahead, able to devise and communicate questions about problems, record details about your own learning, projects undertaken etc. Whenever happens, the Library and flexible learning workshops provide and facilitate your opportunities for learning.

Learning Enablement

In order to know 'how and what to learn', you will require both a personal management system (PMS) as well as agenda/schedule of relevant activities. This agenda can be self-negotiated by your tutor in both a group and individual session context. You will be timetabled to meet as a group at certain times and have 'directed study periods' to carry out your activities. You will be encouraged to book ahead and attend individual tutorials with your particular I.T. case-load tutor, who will act as both I.T. consultant and learning coach. As a learning coach, your I.T. tutor will help you to manage and control your personal timetable of activities which constitute your I.T. learning programme. Your tutor will be responsible for your overall personal assessment record (R.O.A.V) as well coordinate/collate your registration for examinations - e.g. C & G, RSA, BTEC, GCSE etc. Most important of all, your tutor will keep and update your 'personal record' (PR) and monitor your progress through self-evaluation and personal assessment activities, including your ability to record notes through an 'active log' and reflection through a 'personal review log'. Formal examinations based on continuous assessment require 'recorded evidence of performance made by the student themselves 'on-the-job' or during active learning sessions.

Your quality to perform these processes will be enabled through your learning coach using a 'personal learning contract' (PLC) evaluation/awareness management process that will govern your tutorial. Your ability to 'take-on' these skills and personal qualities will enable you to become a self-organised learner and allow you to be successful in both the challenges of life as well as formal examination. Once you know 'how to learn' and become a self-organised learner 'S-o-ler', then your I.T. Tutor will act solely as a subject specialist (ie I.T. Consultant) sharing knowledge and questions you may have about I.T. systems in general.

Student Progression

Those students that demonstrate qualities showing that they are both self-organised and can perform well in formal assessments will receive not only qualifications in the form of I.T. certificates/diplomas, but will be supported by the ITWS manager in the form of references given to higher level courses, (inside and outside the College) as well as prospective employers.

Student Contribution

Each student (including you!) should regard themselves as a member of the ITWS team and should be thinking about their contribution that they can make both for themselves and the centre. Any student making significant progress in both their learning and contribution to the ITWS organisation will not only receive outstanding references, but will be eligible for recognition by a special award. The 'ITWS' shield, to be given to a nominated student each year, as part of the College student awards ceremony. This can of course be then referenced by the student in all future C.V.'s produced and act as a career boost.

SC/KB/ITWS/SLP1/MCC/06.92

fig.(5.1) Exhibit of the original IT workshop Learning Policy Leaflet

This resulted in my production of an 'IT Workshop Learning Policy' leaflet (aimed at all learners) in June 1992, see fig.(5.1). This disseminated information with regards to both personal management of resources and the IT tutorial system employed. The document also disseminates/encourages *student contribution* through active participation in the workshop itself. I invited any student to identify themselves as a *member of our team* and compete for recognition by being nominated for the 'IT Workshop (ITWS) Shield'. This idea was eventually recognised and sponsored by two local businesses in St. Austell - Denver Engineering and Lloyds Bank.

Referring to my time-line account in fig.(4.3.3), it can be seen that we obtained these external sponsorships between December 1992 and January 1993. Denver agreed to sponsor a foundation student annually, with a shield presentation at the college awards ceremony plus a £50 cash prize. Lloyds agreed to sponsor the same arrangement, but to an adult life-long learner. Both companies agreed to do this for over a five year period, on a renewable contract basis.

Another essential need of the ITFM programme was that it required both a flexible approach towards managing IT programmes for mixed learner targets, whilst embracing the policy of enabling PLC and GLC SOL development at the same time. The solution of all these needs led to the development of a 'learning shell' that was flexible enough to be adopted for either *individual* or *group* use.

This suggests development of IT modules that can be pursued by either lone individuals or formal T-group targets. Achieving this aim would allow mixed learner participation in the IT domain, following similar ITFM programmes, but operating *independently* of the learner attendance mode.

Such an ITFM programme would satisfy the requirement for enabling a diverse range of 'secondary' group learners attending the IT venue in parallel at any time. That implies a transient learner population establishing informal GLCs, to be achieved through the social relationships developed as a consequence of available association 'freedoms' in the IT Workshop.

5.3 Development of the 'Universal Design Template' (UDT) as an IT modular FL framework

The IT modular framework for managing a FL programme was considered as a systems-based learning plan solution. A 'learning plan' solution that would underpin the ITFM programme as a content-process curriculum flowchart.

This *SOL-based learning plan framework* was designed according to the following researched criteria:

FL/OL educational needs:

- That 'build-in' autonomous APLA activities within the course programme.
- That enable autonomous learner action/control of their own 'tailored' personal learning programme.
- That enable better educational authoring and organisation of relevant subject-based content materials.

- That build-in task supervisor awareness of the three key educational phases:
 1. Identification of essential prior learning activities relative to content.
 2. Phased learner transition from didactic, 'low-level', training experiences; to learner-led, 'high-level', experiential learning events. To be achieved through an 'activities-centred' ethos of empowering the learner with sufficient resources to achieve individual GDAs.
 3. Progression to - and acquisition of - authoritative recognition of the content skills learnt, i.e. external qualifications such as C+Gs, NVQs etc.

SOL/PLC needs:

- Building-in the idea that the learner becomes a reflective practitioner.
- Integration on-the-job of the PLC task-based awareness.
- That the learning-awareness personal review log is closely related to key learning stages/phases of the ITFM learning plan, with psychological cues/prompts 'road-mapping' these self-assessment events. The learning plan acts as a valuable self-directed process for enabling learner *personal control* of their own progress. This constitutes a 'SOL-based' curriculum learning plan where:
 1. The process encapsulates the SOL/PMS curriculum.
 2. The content includes IT activities relevant to some form of final exam assessment/accreditation.
- The enabling of a heuristic process relative to both task-supervisors as 'authors' of the IT domain-based activities, as well as the intended IT learners as 'end-users' of the ITFM learning plans.

fig.(5.2)

Universal Design Template

(Determined by negotiation between relevant T - C team)
 Process Management Chart for organising small groups and individuals towards an overall course strategy.

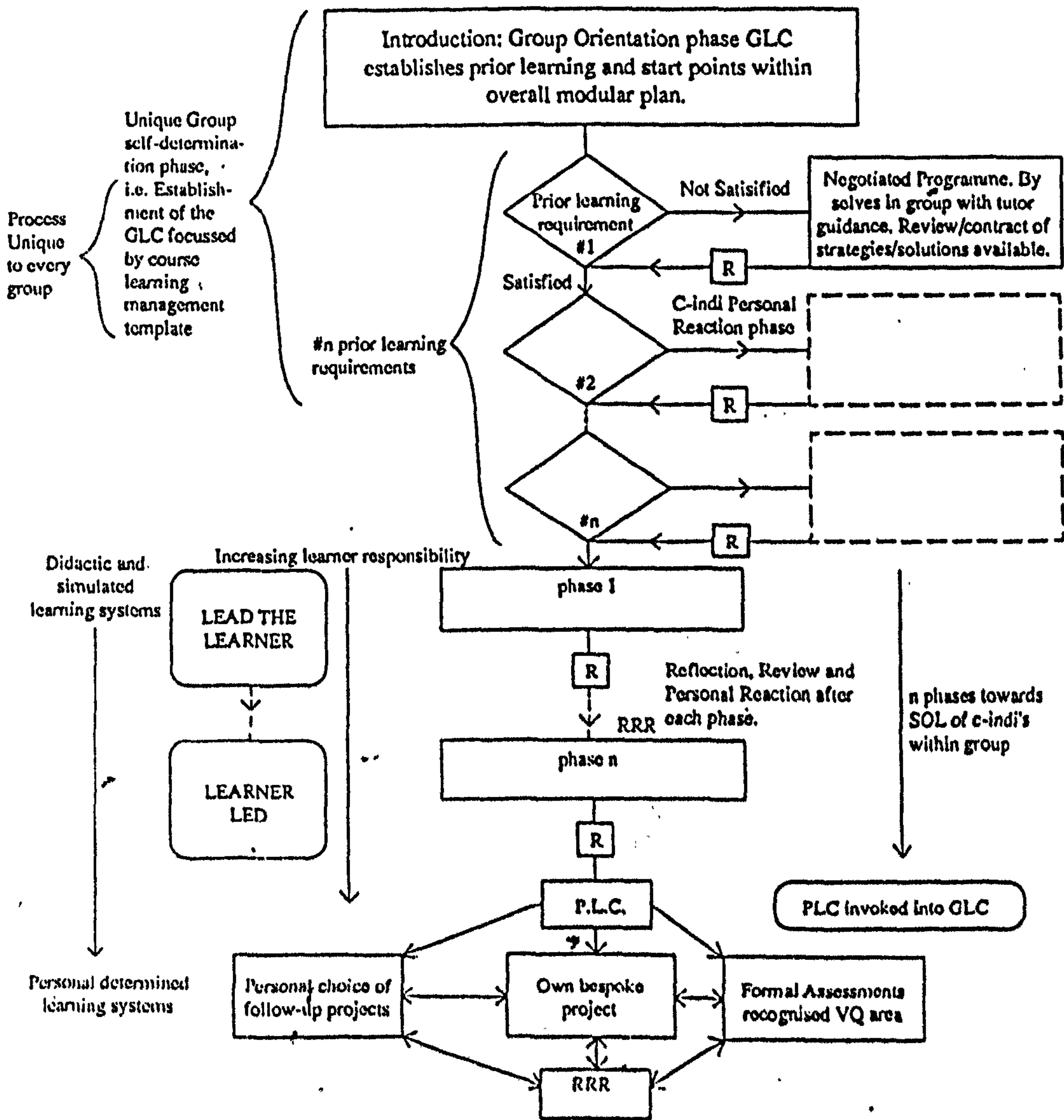
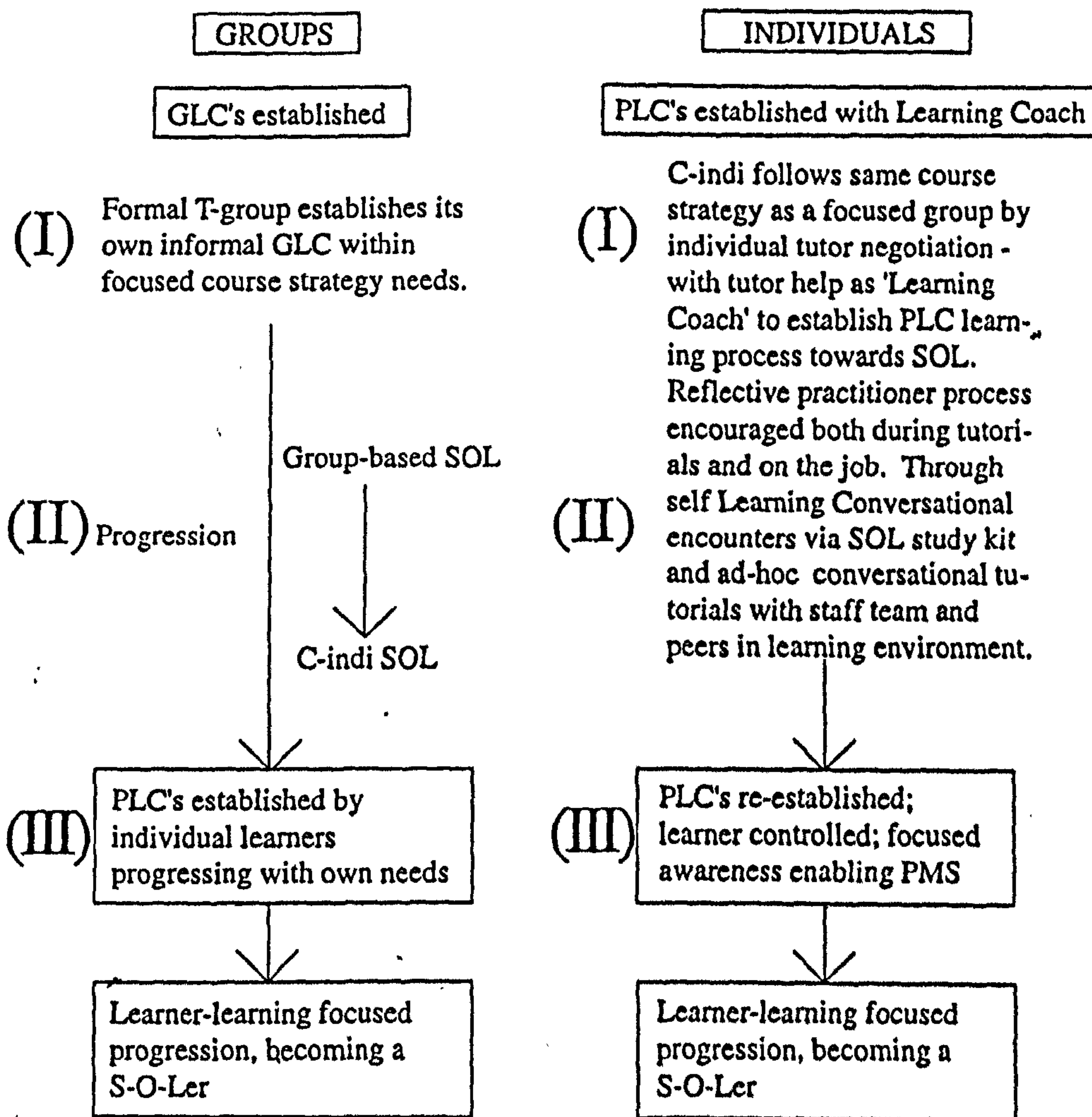


fig.(5.3) The Relationship between 'mixed' targets of learners using common ITFM learning plans in the IT workshop - How T-group oriented GLC's interface with the individual PLC

MANAGEMENT OF LEARNER-LEARNING PROCESS



Satisfying all these criteria led to the field-based development of the 'Universal Design Template' (UDT) by June 1991, see fig.(5.2). The discrimination of GLC versus PLC activities relative to using ITFM learning plans with formal T-groups in the IT Workshop is illustrated in fig.(5.3) : The Relationships between 'mixed' targets of learners using common ITFM learning plans in the IT Workshop - How T-group oriented GLCs interface with the individual PLC. Fig.(5.3) thus illustrates the process behind the management of learner-learning relative to mixed targets using the IT Workshop. This demonstrates how formal groups of learners can progressively be phased from group-based SOL activities, into personally determined learning programmes via the PLC process underpinned by the IT tutorial system. This is to be compared with individual roll-on roll-off learners that do not start off as part of a formal T-group, but join the wider secondary group of the IT Workshop 'armed' with their PLC-based personal learning plans. Both targets, however, can make use of the same IT modular plans authored from the UDT (see Appendix D - exhibits of ITFM learning plans developed for use in the IT Workshop).

Individual learners in the IT Workshop then have the opportunity to form voluntary T-group associations with anyone else resident that they feel like forming a social relationship with. These social learning freedoms then lead to informal T-groups across mixed targets, whereupon self-help informal relationships become spontaneous GLCs.

fig.(5.4)



Event-Time Relationships Account

	Dates	Significant Attributed Events	Flag
Action Researcher	JAN, 1991	DTP learning plan produced and trialled with ad. ed. group and roll-on roll-off individual learner targets - links to other time-lines	
	APRIL → JUNE 1991	PLCE GLE theory related to SOL learning plans leading to identification and development of the Universal Design Template by June.	
	MAY, 1991	Learning Plan for IT module in :- word processing	
Steve Coomb's	" "	" " " " " " :- databases	
	" "	" " " " " " :- spreadsheets	
	DEC '91 → APRIL '92	Fran's 'wordprocessing' C&G module learning plan - produced for Cert Ed.	
Project	MARCH → JULY '92	Learning Plan for Cert. Ed. ITFM produced and applied.	
	JUNE - 1992	'Course Management' Learning Plan produced for C&G 7261/STEC 6017	
	JULY - 1992	Graphical & Textual Design Learning Plan produced & applied.	
	AUG - 1992	Programming - 'Quick Basic' Learning Plan " " " "	
	SEPT - 1992	Simon's 'Returning to Learning' learning Plan produced as part of Cert. Ed. IT	
	OCT - 1992	'Curriculum rationale' chart for combined FT/2 P/T ITFM's produced.	
	DEC - 1992	Programming - 'Turbo Pascal' learning Plan produced & applied.	
	SEPT - 1993	Spreadsheet (version 2) learning Plan " " " "	
	SEPT - 1993	Graphical & Textual Design (version 2) learning plan " " " "	
	SEPT - 1993	'Quick BASIC' (version 2) " " " " " "	
Domain	NOV - 1993	'Computers & Computing' (C&G 7261/212) " " " " " "	
	Nov - 1993	'Generic IT' Learning Plan template produced - ^{common prior} learning acc.	
ITFM - Learning Plans			

SC/time1/CSHL/4.94

Time

Record Date

7 - 5 - 94.

Project Management Time-Line Record - Account of Events

These complex relationships have been observed in the IT Workshop by myself and colleagues. 'Snap-shot' evidences have been randomly recorded on social observation records in situ, whilst other significant (but unrecorded at the time initially experienced) events have been fed back generally via repertory grids and personally recorded interviews. These personal accounts witnessed within the social learning field of the IT Workshop itself are fully evaluated in the next chapter.

5.4 ITFM learning plans developed

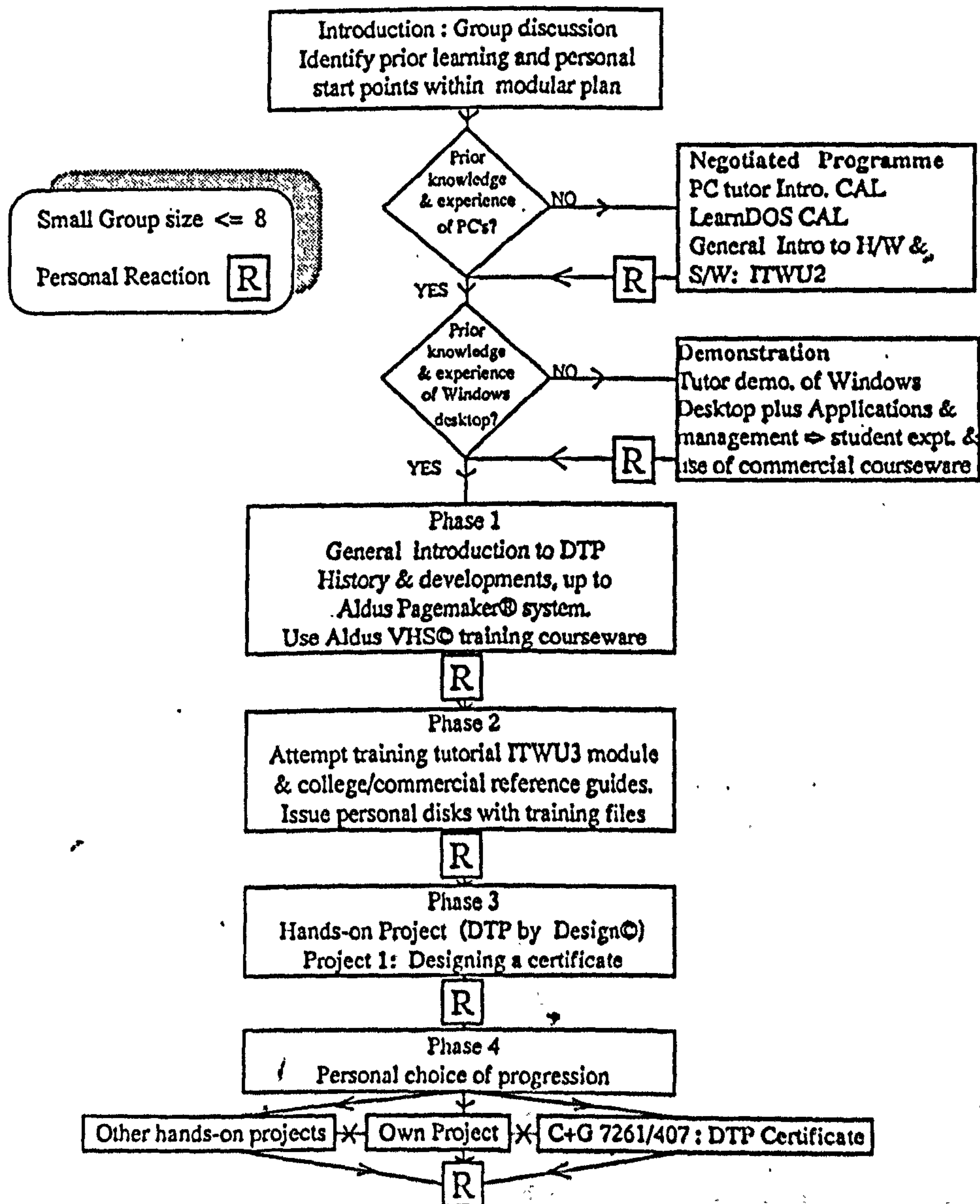
Learning plans supporting all the ITFM programmes were therefore developed and 'authored' from the UDT. The UDT serves as a specific conversational tool from which teachers (mainly myself) can design an FL curriculum based on any content, with the SOL-PLC process built into it. As the UDT was developed as an educational (curriculum development) authoring tool, I experimented with its use on my Cert. Ed. (FE) students. Several teacher trainers were interested in converting their courses into FL modules and agreed to use it. As they came from non-IT fields, I was able to find out the general (or universal) applicability of UDT (this has been explored in section 5.5).

The action research development of both ITFMs and associated learning plans authored from the UDT, has been summarised as a time-line account (see fig.(5.4)). It can be seen from both this account of events and fig.(5.3) that between January and June 1991 the learner-learning management process linking both the PLC tutorial process and IT FL delivery systems was developed.

fig.(5.5)

Desk Top Publishing

Course Strategy : Small Group Plan



This led to the development of the Desk-Top Publishing learning plan (DTPplan), see fig.(5.5). It aimed to satisfy the criteria underpinning the UDT that was listed in 5.3. However, the UDT as a development tool did not exist at this stage. It was only after several learning conversations with both my tutors at CSHL that it eventually dawned on me that there was a universally applicable process underpinning the 'DTPplan'. After much analysis, the UDT process itself was illuminated and designed in June 1991 - as exhibited in fig.(5.2) and accounted for in fig.(5.4).

What had really inspired development of the UDT was the successful trial-run of the DTP plan on various student targets. I had used it as a course hand-out on a DTP evening class that ran from January to April 1991. These students were invited to negotiate their starting-points relative to the IT prior learning areas illustrated. I found that three small sub-groups were voluntarily established:

1. Those with no previous IT experience who wished to start at the beginning of the plan.
2. Those who knew about 'DOS', but nothing else; they wished to start with the 'Windows' prior learning activities and progress as a small group from there.
3. Those who were satisfied with all the prior learning areas and wanted to start with the first phase of the DTP plan.

I was amazed at the pro-active nature of the group and how smoothly this course ran compared to previous programmes. In the past most of my adult students that could not cope with the pace of learning (i.e. starting at inappropriate places compared to personal needs) merely became alienated and would drop out.

Usually by week 4 of the 10 week evening-class programme, the register would fall from around 12 to 4 students. With this 'newly' organised course I started with 9 students, with none dropping-out!

At the same time as running the DTP plan with the evening-class, I tried it out with roll-on roll-off part-time students attending the IT Workshop during the day for flexible hours across the week. It was also very successful with these individual learners, and enabled them to operate autonomously across different IT Workshop tutors that were generally available for ad hoc support. The use of both active and personal review logs turned out to be invaluable, encouraging most learners to manage their activities reflexively - enabling them to *work with both other learners as well as different IT tutors*. From observations in the field itself, I could see the *operational independence* that learners gained from making use of both PLC and ITFM processes. This led them into *becoming more self-organised and better motivated*, with increased pride and regard for the activities that *they* were controlling. Feedback of individual learners benefiting from this PLC-ITFM system is fully evaluated in chapter 6.

With the development of the UDT between April and June 1991, I was able to *transfer the process* with relative ease to all of my other generic IT course programmes. From fig.(5.4) it can be seen that the generic IT areas of wordprocessing, databases and spreadsheets, were all devised as learning plans. With this significant development, I was able to run all four generic IT modules along FL delivery lines, with the bonus that ITFMs could be targeted at both formal IT groups and individual roll-on

The rest of the ITFM time-line shows a rolling development of more learning plans covering diverse areas, including:

- IT modules - both generic and specific areas of IT, leading to C+G 7261 accreditation/examination, see Appendix D.
- Cert. Ed. IT option.
- Non-IT areas - UDT applied to 'hairdressing' and 'restart' courses.
- Full-time IT course management.

This systems-based approach towards identification of educational processes became an *essential modelling tool* for both myself and other interested colleagues. Modelling allowed me to *deconstruct* and *reconstruct* systems-based processes that became practical field-based solutions - i.e. ITFMs, PSOR systems analysis solutions etc. This personal achievement was a major part of my own learning development that I was able to gain as a consequence of my action research initiative.

5.5 Non-IT applications of the 'UDT'

This was achieved mainly as a 'spin-off' to my UDT development tool. The question being:

"If the UDT is a genuinely 'universal design template' for authoring FL/SOL systems-based course solutions, how is it possible for other teachers to use it in non-IT areas?"

It seemed like good-fun to try-out this hypothesis with anyone on my Cert. Ed. course that fancied converting their conventional teaching programme into a FL delivery process. Later that year I found two such 'willing' teachers. What I did was to offer a FL curriculum development project option as part of my IT optional module - arguing that systems-based

fig.(5.6) ITFM Cert. Ed. FL/UDT Curriculum Development Project

UNIVERSITY OF EXETER

CERTIFICATE IN EDUCATION (FE)

PROFESSIONAL STUDIES - STAGE 3 OPTIONS

FL OPTION - FINAL YEAR/STAGE OPTION

FLEXIBLE LEARNING : CURRICULUM DEVELOPMENT PROJECT

PURPOSES & PERSONAL SUPPORT

To explore your existing/intended area of the curriculum and develop it into a flexible learning (FL) mode of delivery in the form of a specific FL module. This will be achieved through negotiation of your own personal learning programme via booked individual tutorials at times convenient for both yourself and tutor and as often as required.

STRATEGY AND INTENDED OUTCOMES

To use a 'Universal Design Template' (UDT [C]) shell as a professional curriculum development tool. The UDT will help raise your professional awareness in the areas of:-

- specific prior learning (pre-module identification/accreditation)
- learner-led progression to projects/VQ assessments.
- how to build learner self-review & assessment into your module using SOL* PLC/GLC methodology.
- developing a 'flow-chart' plan showing the FL routes to be taken by the learner at their own pace, as an alternative structure to the traditional conventional learning (CL) lesson plan.
- develop a tutor-oriented user-manual as a means of disseminating your project to both Cert. Ed. and future colleagues targets.

REVIEW & ASSESSMENT

To employ the use of CSHL PLC & PLB tools to monitor, review and evaluate *your own* learning processes during your project developmental stages (i.e. pro-active assessment heuristic)

GLOSSARY OF CSHL ACRONYMS

PLC - Personal Learning Contract
GLC - Group Learning Contract
PLB - Personal Learning Biography.

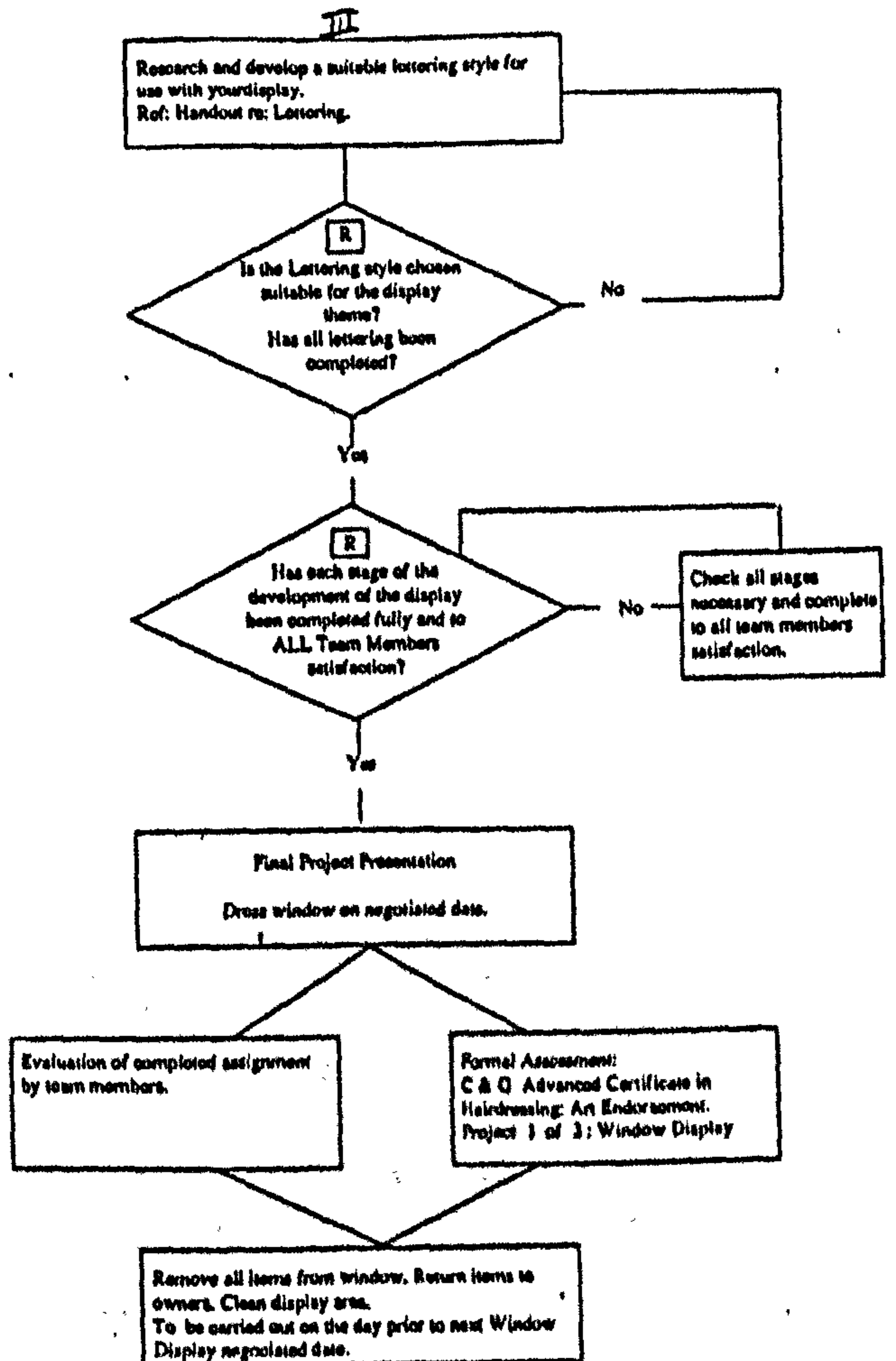
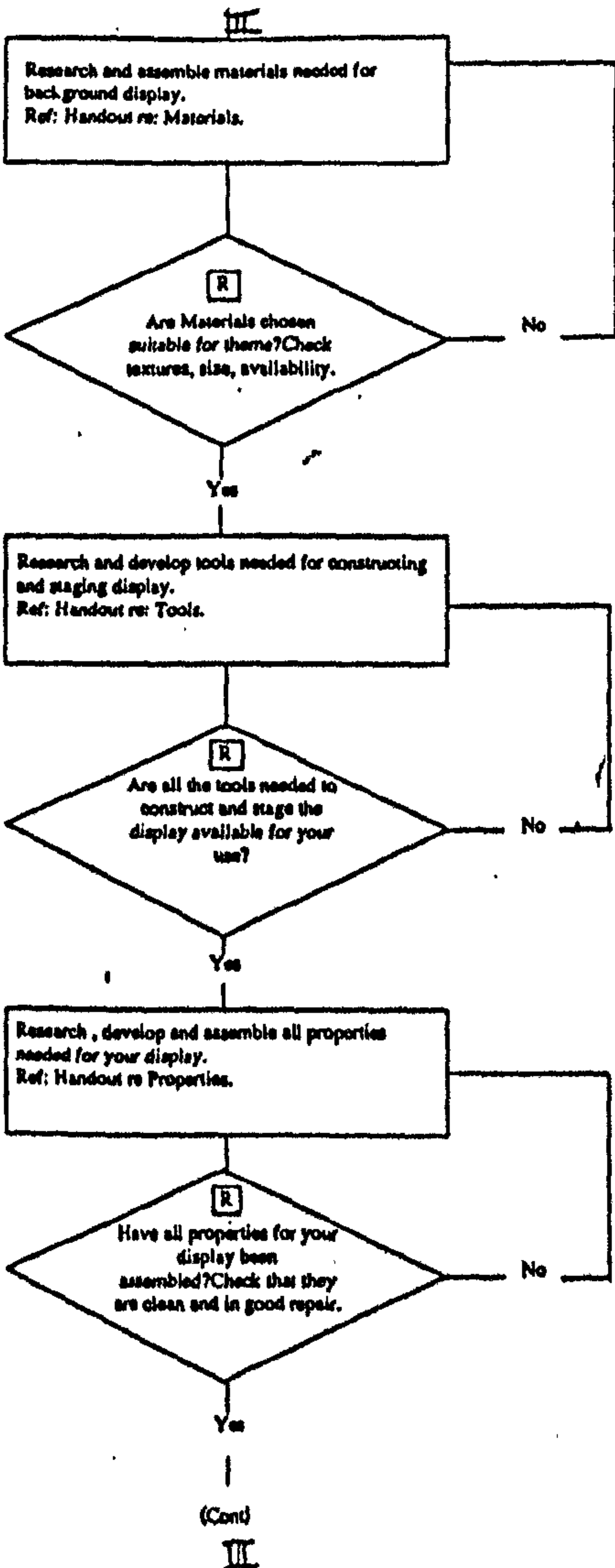
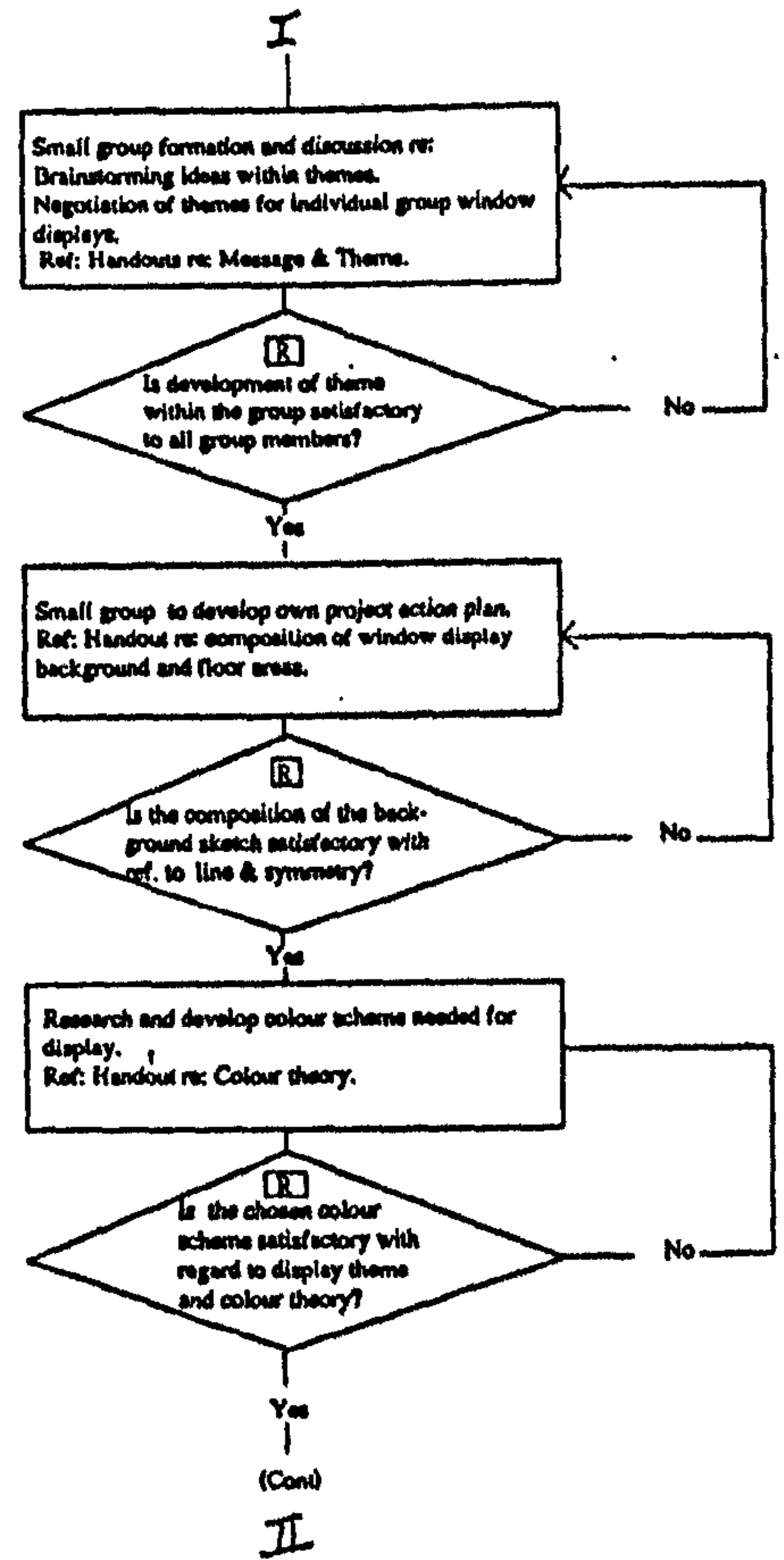
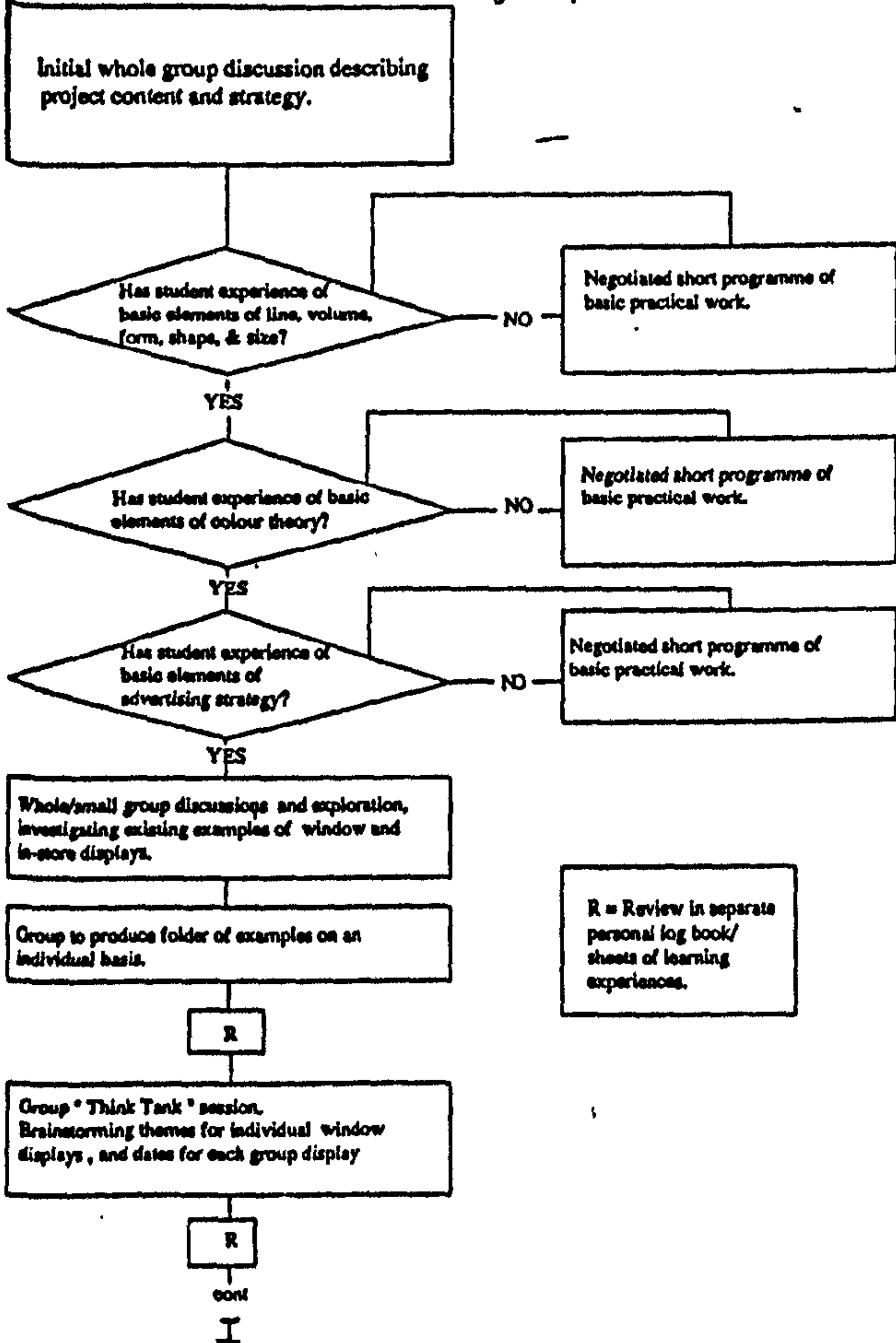
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* Self-Organised-Learning (SOL) - Philosophy from the Centre for the Study into Human Learning, (CSHL), Dept. of Human Learning, University of Brunel, West London.

fig.(5.7) Exhibit of Fran's Window Design Learning Plan

C&G Advanced Certificate in Hairdressing

Window Design Project



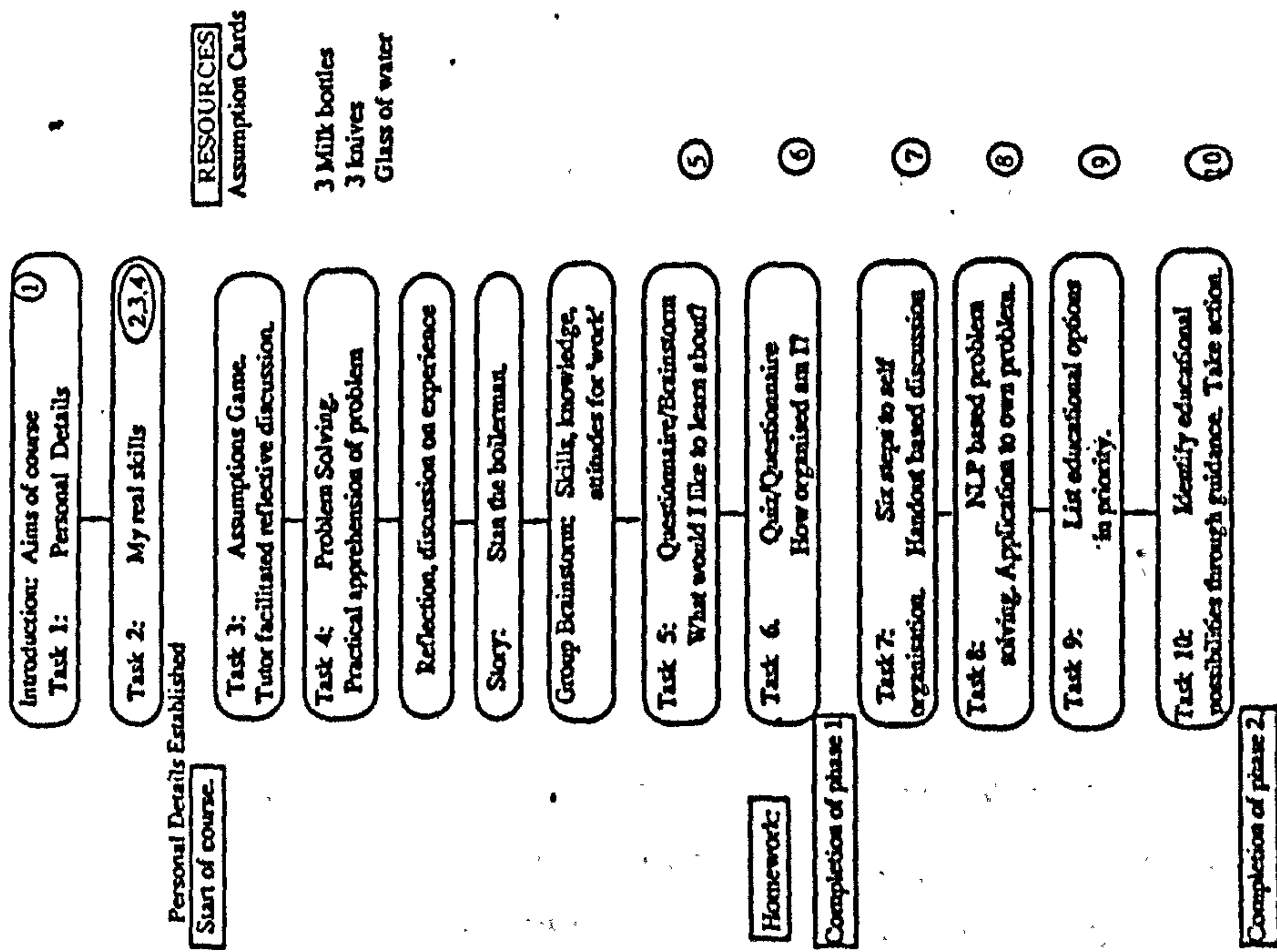
analysis using flow-charts etc. was related to IT/Computing concepts⁸. This FL option was presented as a group hand-out during my induction talk in July 1991. It was later revised in July 1992 to become the exhibit in fig.(5.6) - note the PSOR algorithm underpinning the '*modelling intentionality*' of the UDT, thereby qualifying it as a *conversational tool*. Thus, an educational process was 'marketed', whereby CL courses could be transformed into FL delivered modules. This PSOR inspired process also incorporates the Kellyian three stages⁹ of *idea-development* as a project management creative procedure.

Of the ten students that elected to do the IT option, Fran and Simon decided that they would 'give it a go', as they had both expressed an interest in developing their courses along FL lines. Referring to fig.(5.4) Fran produced her FL-UDT project version by April 1992. She had wanted to produce an FL activities-based course for her C+G Advanced Certificate in Hairdressing students. Part of this course involved a 'Window Display' design project. This module could not be delivered in a conventional manner and style and had been very difficult to run - i.e. with respect to organisation of the student activities-based tasks. Fran successfully authored the course using the UDT as a process management conversational tool, see fig.(5.7).

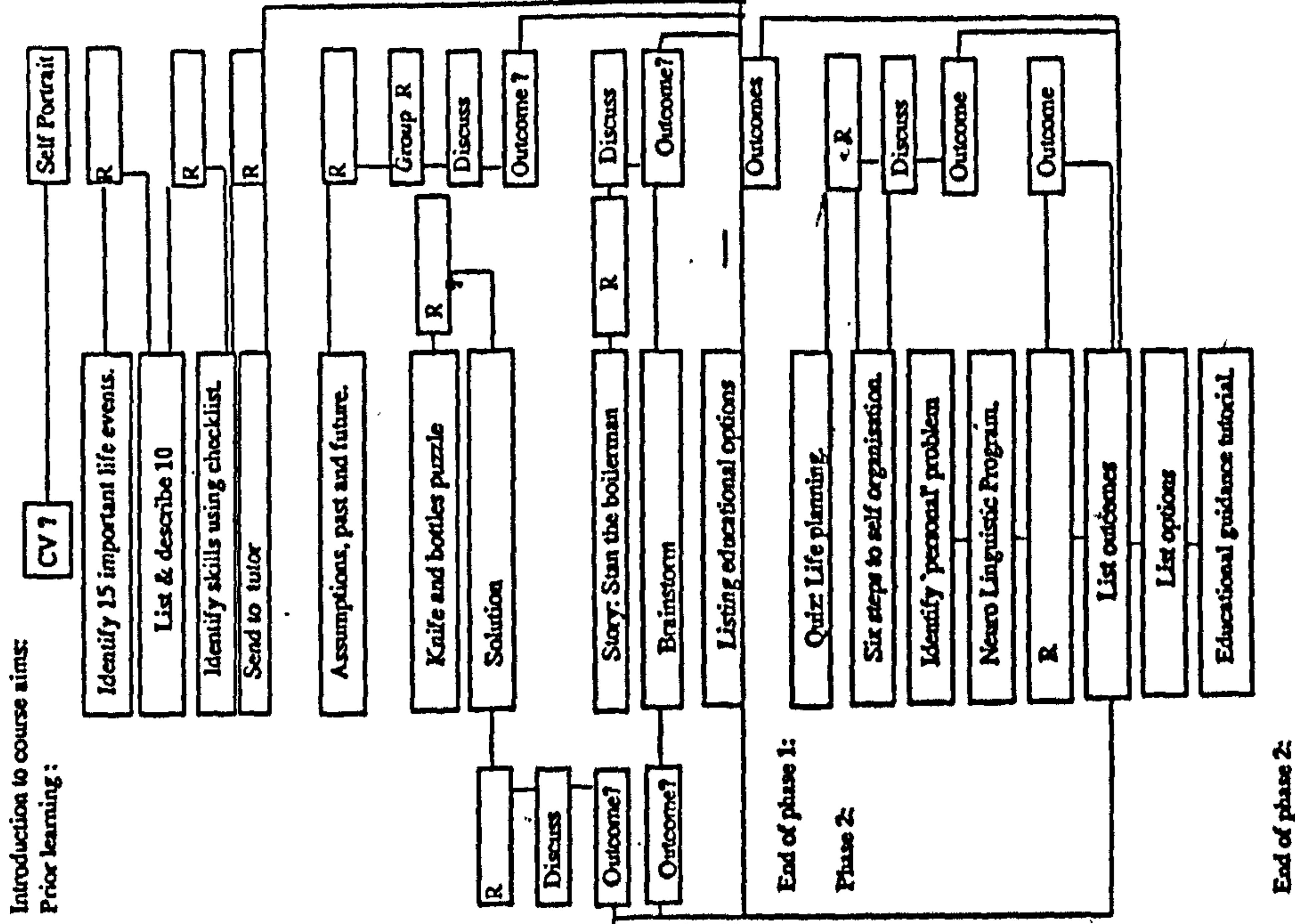
⁸This being only a partial truth. In reality this field bridges cybernetics, social psychology, education and systems-based management. However, I 'stretched' the working parameters of my IT module so as to carry out some field experiments, with the UDT being applied by my own teacher-trainers relative to their own professional context.

⁹See section 3.2.2 regarding the SOL-based action research paradigm as a praxiological experimental method. The 'three-phase' creativity cycle includes idea capture, idea development and operational management.

Design-Flow Diagram for 'RETURNING TO LEARNING': Adult Education course.



Process Management chart for RETURNING TO LEARNING.



Simon Mitchell 24.9.92.

fig.(5.8) Exhibit of Simon's 'Returning to Learning' Learning Plans

Fran's main insight was her identification of the three prior learning areas. Initially she could not identify any at all. I challenged her on this issue of prior learning over a number of tutorials that I had with her. Eventually she told me:

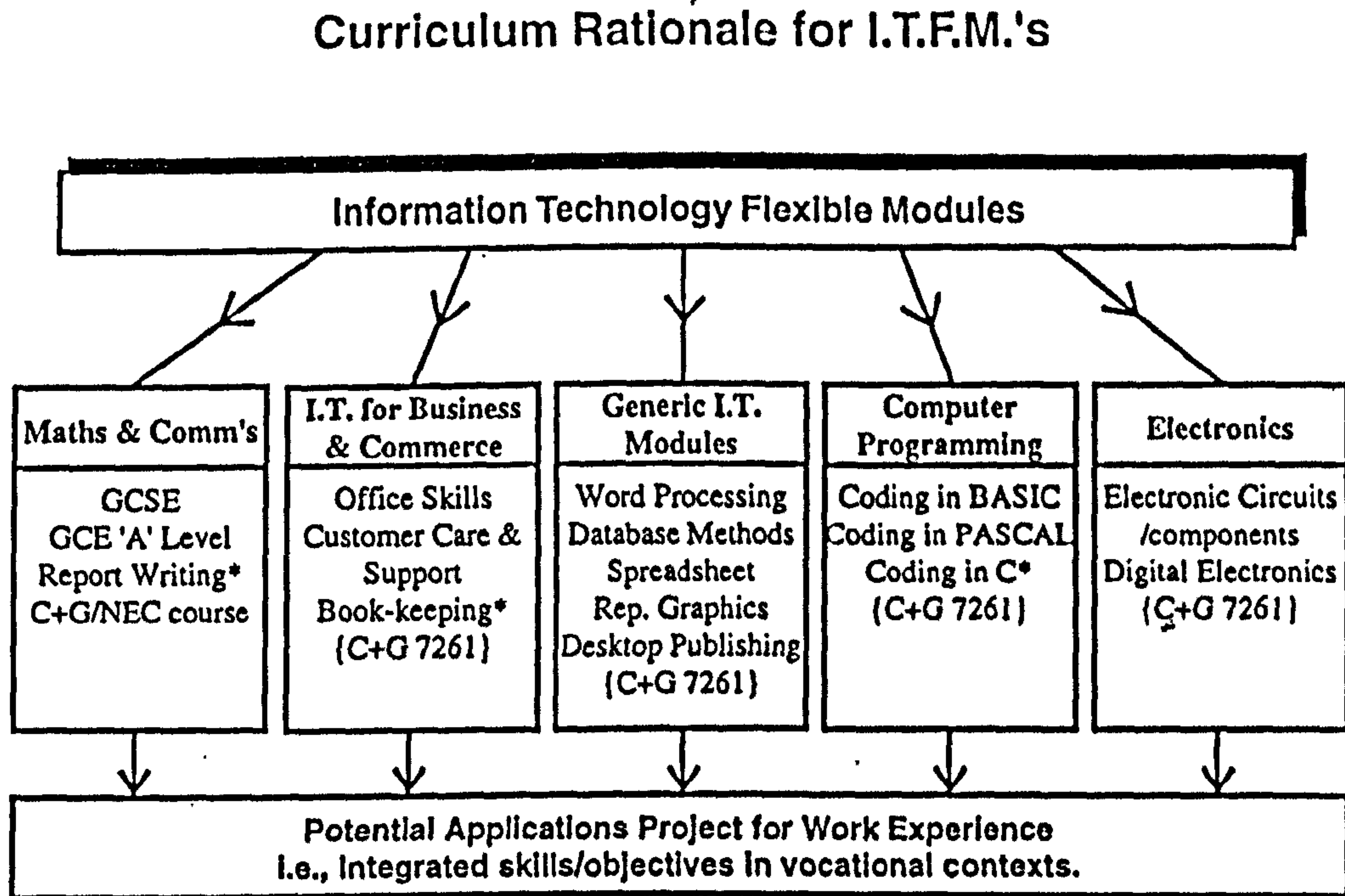
" It's obvious - now I know why several of my girls have always lost interest and dropped out. It's because I offer it as a second year option and some of the girls don't start the course until then. (They come from other colleges etc.). That is - some girls don't do my first year course, which covers aspects of art & design and advertising. So all I have to do is put these areas in as prior learning areas!"

This 'revelation' of Fran's demonstrated very clearly how process management conversational tools can highlight and focus individual awareness in directions usually taken for granted, i.e. assumed knowledge that becomes 'subsumed-awareness' within the opaque processes we use to live and work our lives. Conversational tools such as the UDT help to *illuminate those processes*, thus making them transparent - so that we can see what needs to be done!

In a similar vein Simon developed his 'Returning to Learning' course as part of the adult education RESTART programme, see fig.(5.8). Simon used both my Spidergram and UDT as project management conversational tools as well as the standard CSHL PLC taken from 'Learning Conversations'. Simon's retrospective account of his own reflection sums up the PLC process with much insight:

" ..I do feel that the deconstructive reflective technique used in the PLC is useful, but probably primarily to 'new' or young learners who are only just beginning to develop the skills of SOL and the critical examination of motives and outcomes which goes with it. I believe that reflective activity is central to the learning process... ."

fig.(5.9) The integrated ITFM programme for all student targets



The above represents the intended 'curriculum-map' of both fixed core areas and options for both full-time and part-time targets.

Most students are expected to achieve NVQ Level 1 either on the course or as accredited prior learning, before vertical progression to NVQ's 2, 3, etc.

* Under Planning/Development

The full feedback reports by both Fran and Simon can be seen in Appendix E - Fran & Simon's IT/FL option.

5.6 ITFMs and IT curriculum development

This final section shows how my action research project development of the ITFM programme has had an influential effect on IT curriculum development in general and the tutorial system that underpins it.

As a consequence of my original objective to convert CL IT courses into those with FL delivery systems, the ITFM programme was developed. This ITFM programme solved a number of discrete IT curriculum problems by embracing the C+G 7261 IT modular scheme (see fig.(1.5)) for both full-time foundation students, as well as part-time roll-on roll-off life-long adult learners. The curriculum rationale for ITFMs is illustrated in fig.(5.9), where modules from a number of discrete IT fields are combined to form a full time FL curriculum. At the same time, roll-on roll-off adult learners can elect to do any of these modules on an 'infill' basis. As none of the ITFM learners have to attend traditional classes for most of the modules on offer, the main problems encountered are the logistics of the IT Workshop itself - i.e. how many machine-slots are available for booking, plus tutor availability relative to existing case-loads. In practice the IT Workshop had around two dozen full-time IT students with a rolling caseload of around sixty part-time adults.

fig.(5.10) ITFM Cert. Ed. Course Flow-Chart

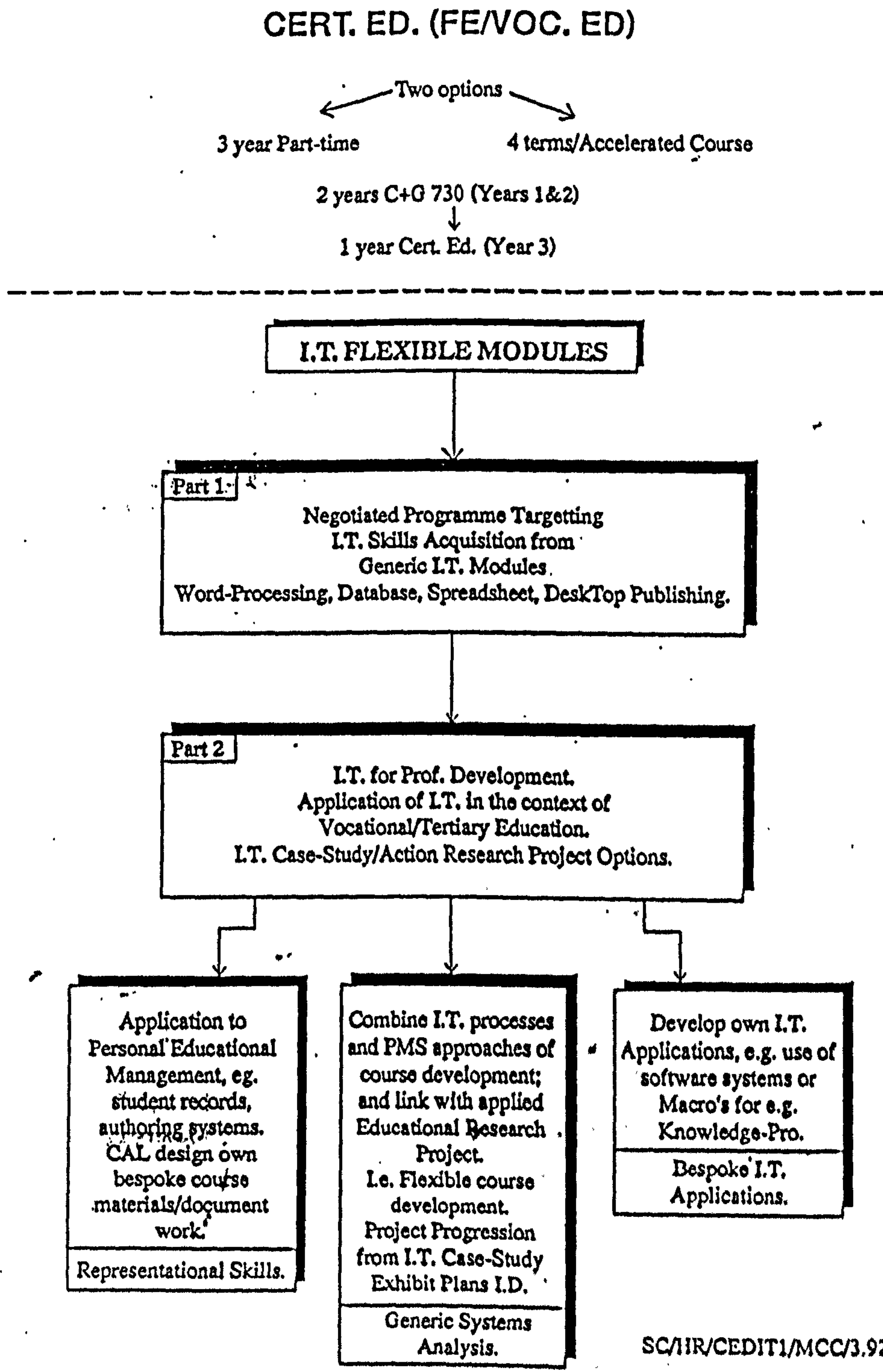


fig.(5.11) ITFM Cert. Ed. Learning Plan

Flexible I.T. Modules for the Certificate of Education

Overview of Programme

Small group
≤8
Personal
Reaction **R**

The 5 generic
areas of choices
available in the
I.T. Workshop.

Course Strategy : Small Group and Individual Programme.

PART 1 : SPECIFIC I.T. MODULES

Orientation: Pre-group survey (postal/tutorial). Questionnaire to I.D. individual prior learning experience of individuals in group and choice of needs, i.e. feedback of I.T. generic areas. To estimate numbers for each group in an I.T. generic area.

Introduction : Group Discussion.

Cluster individuals into specialist small groups. Negotiate a group learning contract (GLC) and delegate small group plans for each generic I.T. area.

Orientation of individual I.T. courses to be followed, via tutorials with project exam options negotiated.

R
Questionnaire
of I.T. choice
areas i.e.
focussed
investigation.

PART 2 : EDUCATIONAL I.T. APPLICATIONS PROJECT

Orientation: Pre-group planning in, generation of CSHL/PLC to establish individual; needs and negotiated proposals towards a bespoke I.T. project, skewed towards professional development of individual student.

R
PLC
management of
learning review
process.

Individual PLC's generated of I.T. educational project. Records of review feedback through programmed individual tutorial, via PLC management materials, PRL, PFQ1.

Final presentation of projects: group exhibition/seminar of I.T. materials/methodologies generated.

R
Final end of
module
evaluation

Dissertation disseminating I.T. project. End of module course evaluation/review.

In addition to these figures, around two-hundred regular college users came to the centre on an open-access basis. Given the relatively small size of the venue (room for around 20+ learners at any given time) the IT Workshop was a hive of activity Monday to Friday. This included lunch hour and after college hours usage, despite its serving a wide rural population from all around the Mid-Cornwall region (with the usual transport problems).

Another ITFM programme was developed for delivering the Cert. Ed. (FE) IT option, see figs. (5.10) & (5.11). This allowed IT to be learnt as both a skill (part 1 of the module) and as a tool (part 2). Part 2 of the module concentrated on developing IT curriculum solutions in the context of the student's own professional development area - i.e. applying conversational tools such as the S-O-L PLC and PLB (see 3.1.2) as project management learning aids. This led to a number of students choosing IT as a theme to support their own action research interests in *their field*, according to their individual professional needs.

Another key development in the college's IT curriculum field, was my involvement in running two full-time IT courses from September 1992 - C+G 7261 ITFMs and the BTEC First Diploma in IT Applications. I was keen to take on these extra courses so that I could both *integrate* them and *pool* the staffing resources into the IT Workshop, meeting the 'double-staffing' requirement argued earlier in the chapter.

Running *both* these full-time IT courses for foundation students turned out to be an interesting curriculum development project, mainly because the BTEC course was to be offered along semi-traditional lines (but with some FL), while the ITFM course was to be mostly FL delivered.

fig.(5.12) The ITFM C+G 7261 & BTEC FDIT full-time courses

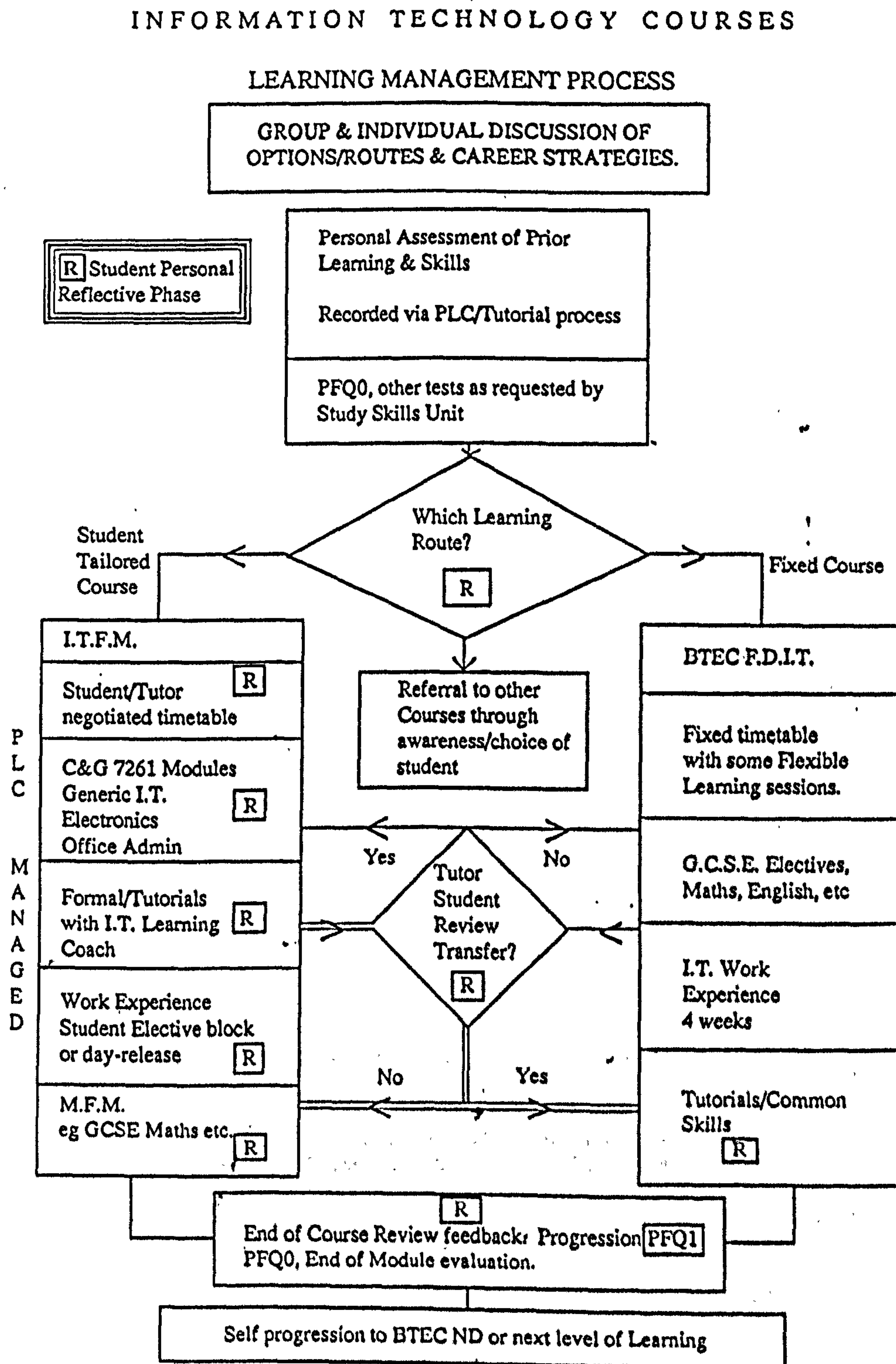


fig.(5.13) ITFM Initial Tutorial Checklist

LEARNING COACH "ORIENTATION COUNSELLING PHASE"

Checklist of items to be covered for initial orientation tutorial

To be used actively whilst conducting initial Personal Record (PR) of learner as part of the PLC process. [Completed by Learning Coach].

- 1. 'Formal' tutorial appointment made successfully? Y N
- 2. Has the student completed PFQ0 and summary? Y N
- 3. Has the student completed a personal profile? Y N
- 4. How was the student referred to this venue?

- 5. What family/social circumstances can the student explore for him/herself that are relevant to his/her learning situation, and have you recorded any special problems that have arisen on the PR?

- 6. What Course/Module Plan and Learning resources have you recommended/negotiated with your student?

- 7. Have you recorded an agenda of provisional objectives on the students PR? Y N

- 8. Have you agreed when and how often to hold the next tutorial? Y N

- 9. Does the student understand the booking/tutorial system as part of the PLC management process? Y N

- 10. Does the student understand the distinction and use of the active log as opposed to the Personal Review Log? Y N

- 11. Does the student understand the need for personal reflection and reaction after each step of the modular learning plan? I.e., are they aware of when and how to record their learning processes on their PRL? Y N

- 12. Do they know where to collect their learning materials? Y N

- 13. Have you confirmed this tutorial in the appointments register and logged how much time has been taken up? Y N

fig.(5.14) ITFM Student Progress Report for 'steering' Tutorials

ST AUSTELL COLLEGE

INDIVIDUAL TUTORIAL PROGRESS REPORT No.

NAME	<input type="text"/>	COURSE	<input type="text"/>
MODE (F/T OR P/T)	<input type="text"/>	TUTOR	<input type="text"/>
DATE	<input type="text"/>	TIME	<input type="text"/>

Student Feedback re: Personal Record Activities/Agenda
What successes/progress has the student made?

What problems/solutions has the student reflected upon?

In the light of this 'steering-tutorial' evaluation, what new actions/activities have been negotiated? Does this represent a departure from the current personal record?

fig.(5.15) Conversational Evidences Record for student portfolios

Profile of Conversational Evidences

Student Name Enrol. No.

Tutor/learning coach : complete details below during periods of review.

Initial checklist completed	<input type="checkbox"/>			
PFQ0 Initial and summary completed	<input type="checkbox"/>			
PFQ0 Final and summary completed	<input type="checkbox"/>			
	<small>not really</small>	<small>to some extent</small>	<small>to a full extent</small>	
First PR completed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Modified/New PR's made	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Inter-Module evaluation completed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Personal Review log's evidenced	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Active logs/student notes evidenced	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
PFQ1 completed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
New PR programme initiated	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
End of Module Evaluation completed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Student start date: Contact tel:

Expected finish date: Address:

Actual finish date:

Review Dates and Details

DATE	WHAT AREA WAS REVIEWED AND EVIDENCED

This represented a unique opportunity for students to be able to choose the course which suited their learning needs. It also represented an opportunity for easy course transfer for those students not coping with either of the options. Consequently, I analysed these options and course differences using a learning management process chart, see fig.(5.12). This option led to a number of BTEC students transferring to the ITFM course who would otherwise have dropped out of college. These full-time student target groups are also analysed as part of the social field evaluations in the next chapter. Many of the BTEC students progressed onto the ITFM course in order to achieve NVQs 2 & 3 in IT applications. This educational 'fix' turned out to be more significant than I had originally planned. Indeed, the two distinct IT courses with similar curricular, but different delivery, styles provided a means of weaning some school-leaver foundation students from the traditional CL delivery-style to the FL-tutorial delivery system underpinning the ITFM programme. Consequently, valuable social case-study material of these learner targets was obtained - see exhibits in Appendix F.

The PLC-tutorial system underpinning the ITFM programme also saw a number of practical modifications over the development period. It was modified in 1992 to include additionally:

- Feb.- 1992 : Learning Coach orientation record - see fig.(5.13).
- Oct.- 1992 : Individual tutorial progress report - see fig.(5.14).
- Dec.- 1992 : Profile of Conversational Evidences - see fig.(5.15).

fig.(5.16) Real-Time assessment policy applied to the ITFM programme

C+G 7261 ASSESSMENTS

CANDIDATE GUIDELINES

REAL-TIME ASSESSMENTS FOR FLEXIBLE LEARNING

- 1). That all ITFM (full-time and part-time) students take examinations in a recognised centre venue, i.e., the ITWS, OLC and OBLC.
- 2). That students notify any available I.T. tutor prior to starting an official C+G exam assignment, so that they may be timed by that tutor with 'real-time' assessment following completion of the test.
- 3). Results of any test may then be recorded on-the-spot by the tutor, with any necessary marking/feedback with passes, signed and logged in the students C+G exam folder.
- 4). Long-term assignments (e.g., DTP tests 4 hours+) may be logged via a sequence of tutors over the required period of time. Each tutor signing and logging the time taken for each part on the students C+G assessment log.

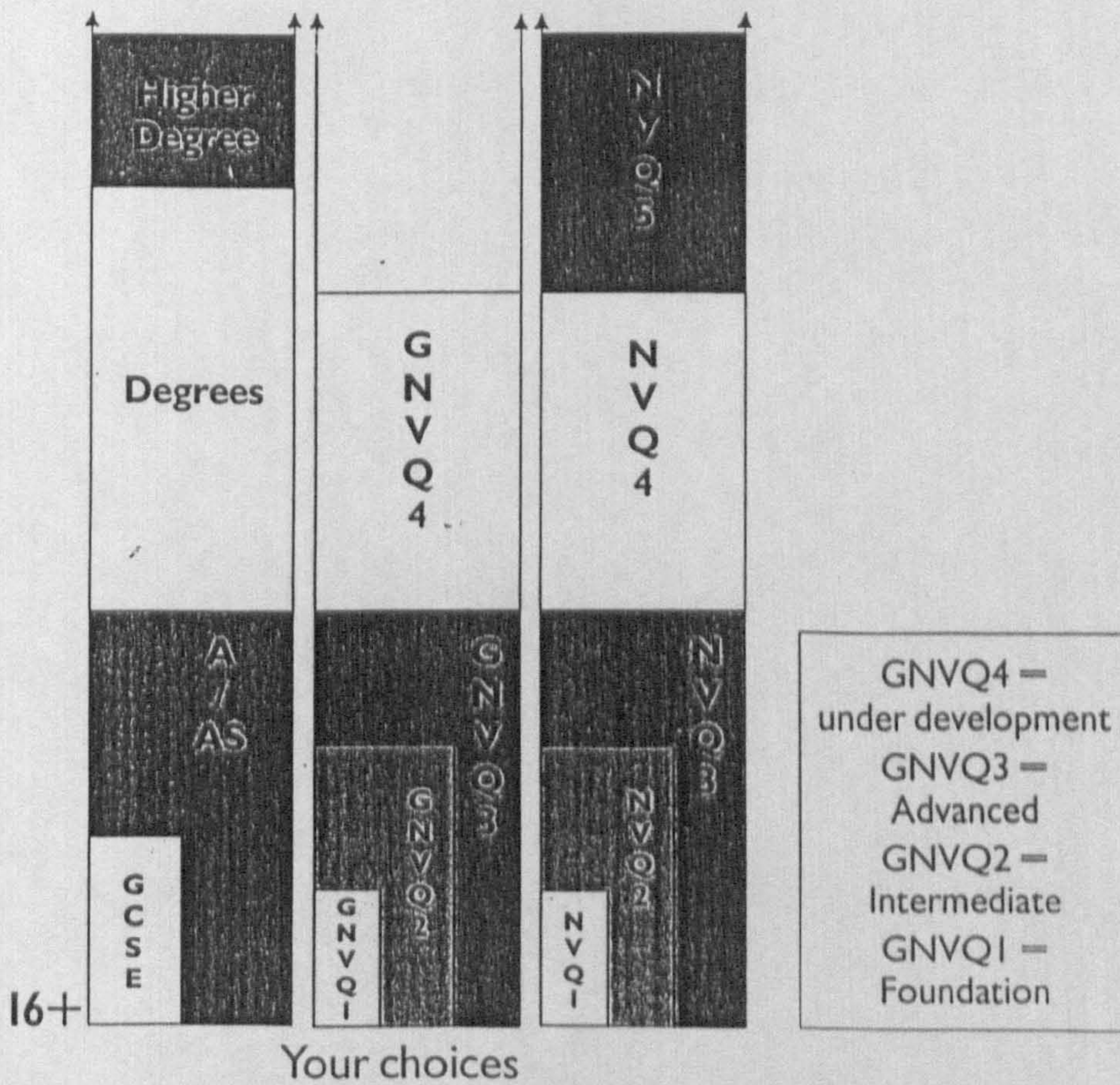
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fig.(5.17) St. Austell College Interpretation of Vocational Qualifications

The Qualifications Framework...

... has been developed by the National Council for Vocational Qualifications (NCVQ). You can be assured that you will be working towards nationally recognised qualifications.

You can choose a vocational route leading to a National Vocational Qualification (NVQ) or an academic route such as A level. The introduction of General National Vocational Qualification (GNVQs) allows you to obtain the best of both worlds by combining vocational and academic education.



GNVQ s & NVQ s

Timetabling & Organisation

S.Coombs/GNVQohp1/SAC/12.93

G/NVQ Organisation of Learning

GNVQ & NVQ Student Targets

Let's not forget who we are serving and why? i.e. Purposes underpinning the alternative vocational parallel stream.

- vocational target stream or non-academic school leaver progression
- same end's but different means i.e. To get to vocational degree G/NVQ level 4+, but using non-academic delivery of learning scenarios and contexts¹
- Develop the vocational 'work-based' simulated and real scenarios, and integrate core-skills² into these contexts of learning

¹See FEU documents, ABC, Experience Reflection & Learning and CAT's etc. asks for 3 hour blocks, so as to accommodate for flexible project based curriculum delivery i.e. both vocational and core skills workshop scenarios.

²Thus, maths, English communications and IT core shouldn't be taught as conventional stand-alone academic subjects in classrooms; but integrated into vocational assessment programmes according to GNVQ core skills target objectives at each discrete level. Thus, staff/curriculum development should concentrate on developing integrated core assignments with GNVQ check-lists, plus learning workshops (with core-skills lecturer/tutor staff support) available on an open-access basis for directed study time to complete the prior learning declared core statement objectives. Core learning assignments can be attempted prior to integrating skills into the vocationally assessed unit assignment using an appropriate assessment/networking college standards policy.

The 'open-exam' system developed needed clear guidelines. This led to the policy of 'Real-Time Assessments for FL' (see exhibit fig.(5.16)). These guidelines were intended to legitimise the practice of students electing to be assessed when they felt they were ready. This form of student empowerment was also intended to support the practice of encouraging self-organised active learning - through personal management of a bespoke IT programme, where the students have *control* of their own assessment schedule.

During 1992 - 1993 the GNVQ/NVQ development was 'thrust' upon all vocational curricula in FE colleges. The relationship between traditional courses and the new GNVQ/NVQs is illustrated in fig.(5.17) (reproduced from St. Austell College marketing literature). In simple terms, the difference between GNVQs and NVQs, is the development of a unifying core-skills curriculum that can enable educational transfer competencies that are otherwise lacking in most stand-alone NVQ courses. By converting all vocational courses to GNVQs, it is hoped that they will provide a future parallel stream to A levels for HE training and access in general. As part of this core-skills debate, I argued that the generic IT curriculum represented *just such a core* for IT skills. I also argued that IT/FL workshops was the best means of delivering the GNVQ IT core curriculum (see fig.(5.18)). In practice the IT/FLC team of tutors were given the task of developing GNVQ IT courseware, and the decision was taken to deliver the programme through the various FLCs around the college. Thus, the college's Curriculum Support group had at last identified generic IT as a core skill, which was to be delivered through the use of central college FL workshops operating along OL lines.

CHAPTER 6 : Action Research Results and Conversational Evaluations from the IT Workshop Project

The overall evaluation of my action research project has been broken down into different facets of assessment. One facet covers the systems-based learning solutions applied to the organisational management model of the IT Workshop - which has already been appraised in chapters 4 and 5. This chapter considers the other facets, covering social learning conversational evaluations from persons involved in the action research 'field' itself. The 'social learning field'¹ represents those persons involved with the IT Workshop development, operating as *conversational learners* within the S-O-L Systems 7 organisational management model.

6.1 The overall evaluation policy

I have therefore considered social learning evaluations relative to three key target groups of Systems 7 'learners' that have been involved with the IT Workshop as a *learning organisation*:

1. Actual students involved in the IT Workshop as a *learning domain*.
2. IT staff as tutors, colleagues etc., operating in the same domain.
3. My own personal development as action researcher and IT Workshop manager.

¹'Social learning field' being a generic term, explained in chapter 3 as defining the action research process to be adopted. The process adopted relates SOL to new paradigm social psychology methods - Harré et al . The SOL conversational paradigm adopted has been linked to a practical 'generic' interpretation of Rom Harré's 'ethogenic' approach towards social psychology action research. Hence, generic labels such as 'social learning proposal', 'social learning field' etc., have been used to demonstrate the framework underpinning my specific IT Workshop application area - see fig.(3.10).

Most of the appraisal related to this action research project was carried out in the field as part of the on-the-job process. This includes student evaluations that have been built into the PLC tutorial system. My own self-appraisal has also been recorded on-the-job via a biographical log of *key learning events*, recorded as a combination of diverse evaluations, including project management time-lines and repertory grids, relative to different aspects/domains of the overall development.

It was in an effort to combine the 'richness' of qualitative research methods with a clear experimental rationale, that led to my major study of new paradigm social psychology research methods in chapter 3. Consequently a SOL action research conversational paradigm as a praxiological² experimental process was investigated and proposed.

In order both to *illuminate* and *validate* the processes underpinning the 'freedom' of my own small scale project investigations, I summarised what I believed to be a sensible agenda defining a SOL-based action research experimental method. This method praxiologically implements the new paradigm social psychology *intentions* relative to a *conversational axiom*.

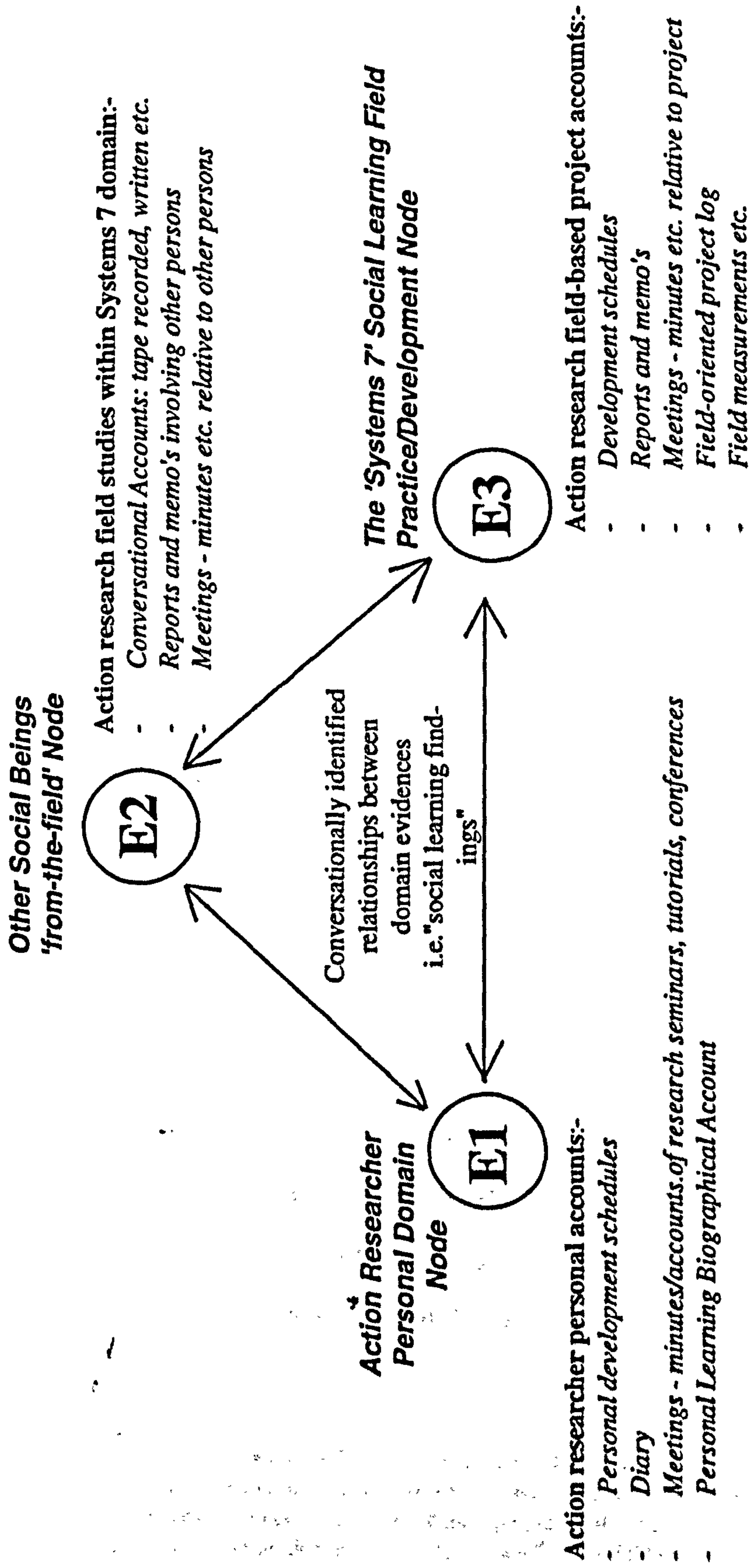
²Praxiology was discussed in chapter 3. It was defined as an active experimental process, translating the subjective aims of new paradigm social psychology 'ethogenics' into a 'conversational' action research 'praxis'. Hence, a generic process which has been adopted for the specific application of the IT Workshop operating as a social learning field of inquiry within the Systems 7 SOL environment.

It was from this new paradigm conversational experimental method that the summary was given at the end of chapter 3. This summary included a practical method for devising and implementing a social learning proposal under the auspices of Systems 7. This also included a *process* for identifying and developing the *specific conversational tools* needed to carry out the action research project management. Built into these *project management activities* are various evaluative methods including: in-field personal development logs/accounts, domain logs/accounts, questionnaires, repertory grid conversations, retrospective accounts etc.

One key aspect of the whole *qualitative analysis process* was the idea of *triangulation*. The *triangulation of evidence analysis process* aims to provide an alternative experimental policy. This new paradigm 'experimental' approach is to be compared with the more conventional physical science paradigm, which tends to adopt quantitative analysis methods exclusively as the arbiter of truth and validity.

By providing *triangulated qualitative accounts* (and other alternative conversational methods/procedures) as evidence from different learning sources within Systems 7, it is intended that subsequent experimental findings will be illuminated in a systematic (and hence, qualitatively rigorous) way.

fig.(6.1.1) The Triangulation of Evidence analysis process applied to key action research nodes identified from within the S-O-L 'Systems 7'



This triangulated evaluation model has been illustrated in fig.(6.1.1), where the action research social learning field of Systems 7 is considered from three key *separate nodes*, acting as *different sources*³ of potential evidence:

E1 Action researcher, personal domain node.

E2 Other social beings 'from-the-field' node.

E3 The Systems 7 social learning field Practice/Development node.

These separate evidences can be discursively analysed using *appropriate conversational tools*, acting as a qualitative experimental process to aid project management evaluation.

The results from such a *qualitative process* are the conversationally identified *relationships*, which constitute the action research *social learning findings*.

Thus, from SOL we have a social learning field achieved through the conversational paradigm of Systems 7. From an evaluative perspective SOL employs the algorithms associated with the PLB, whilst new paradigm social psychology extols the use of triangulation. I have therefore decided to adopt the concept of triangulation, but within the auspices of the SOL conversational paradigm.

³The triangulated nodes are considered of equal validity, i.e. they accord with social parity. Thus, the conversational relationships between other persons involved in the action research field is of equal standing with my own (hence, triangulating as separate - but equally valid) evidences towards evaluation of the common development. Other staff in the IT Workshop are therefore 'free' to play the rôle of action researcher if they want to. As such, their needs and aspirations/inquiries carry equal validity to my own. This was true with John, who decided that he would use repertory grids on his own terms. This meant an investigation into ideal group learning sizes, as he decided that this was an important issue which affected the operation of the IT Workshop and FE in general.

fig.(6.1.2) The Triangulation of Key Evidences from the IT Workshop
'Systems 7' social learning field

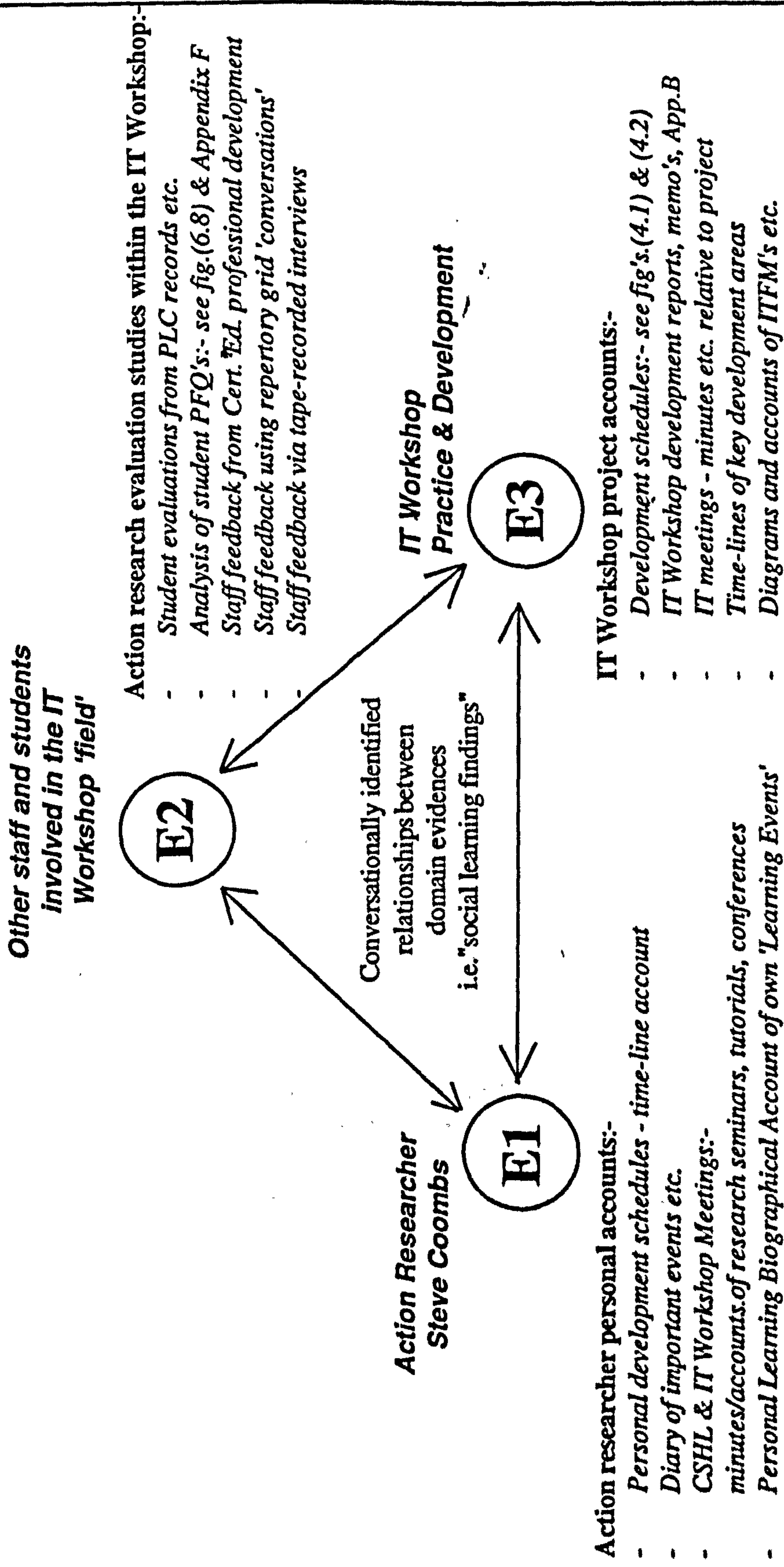


fig.(6.2) Summary of Action Research Time-Line Evaluation Records

<i>Time-line domain focus</i>	<i>Time-line description</i>	<i>Source reference</i>
Myself as action researcher	To record key learning events relative to my own personal learning	fig's.(4.3.1) & (4.3.2)
IT Workshop key development events	Key field developments over whole research period, covering both Mid-Cornwall and St. Austell College	fig.(4.3.3)
IT Workshop key development events	Key 'change-management' learning events over the 3 year research period, relating to IT/FL developments	fig.(4.3.4)
ITFM development	Key events relating to the development of the UDT and ITFM programmes	fig.(5.4)

Hence, the triangulation is performed relative to source-based evidences gleaned from 'key' Systems 7 learning nodes. Thus, SOL-based triangulation identifies the *key action research evaluative nodes* within the Systems 7 social setting of a learning environment (i.e. in this case the IT Workshop). The evaluations within this procedure include all the usual feedback 'modelling' techniques associated with the SOL PLB, i.e. the PLC, PSOR and MA(R)⁴S heuristics.

The specific 'triangulated' evaluation of evidences recorded from the IT Workshop is illustrated in fig.(6.1.2). The remaining sections of this chapter investigate and analyse these socially-derived learning evidences. Conversational tools such as the CSHL FOCUSed repertory grid have been used to feedback staff evidences, including my own - see section 6.3.2. These repertory grid-based conversations have then been triangulated (or compared conversationally) with separate evidences taken from both the same and different staff as directly recorded interviews. Evidence from student questionnaires have been fed back and analysed using factor analysis, and then triangulated (or conversationally accounted for) with separately written student feedback reports obtained from their PLC records.

Overall key-project developmental events affecting the IT Workshop, have been 'time-lined'⁴ relative to a number of key action research domains - see fig.(6.2).

⁴An unfortunate adjective describing the process of taking multiple time-lines of events relative to different aspects of the action research programme.

Discursive discourse analysis (DDA) of all the above social learning evidences has been conducted using various SOL-based *talkback accounts* that have been specifically developed for this project. Talkback summative accounts have been used to qualitatively 'ladder-up' and analyse conversationally obtained results. These talkback summative accounts have been used for:

- CSHL repertory grid personal findings - for myself and staff.
- Factorgram analysis of 'hidden' factor dimensions.
- Analysing relationships between and across events/domains from various time-line accounts.
- Summarising tape-recorded interview transcripts, obtained from IT Workshop staff, thereby identifying key 'findings'.

Whilst none of the above methods represent a perfect project evaluation in their own right, the policy of triangulation (leading to identified relationships across separate evidences) should combine and make sense of any related evidences, thus illuminating interesting findings. All these variously sourced findings are then discussed in chapter 7, from which lessons learnt are identified.

6.2 Evaluations from IT student-learners

6.2.1 The scope and range of student evaluations

IT student-learner evaluations have been built into the PLC learning process that underpins the ITFM tutorial system - see figs.(4.11) & (4.12). Thus, ITFM student learning is evaluated on-the-job before, during and after their IT coursework activities.

Student attitudes and learning needs were evaluated using a combination of questionnaires and written feedback records. Appendix F contains an illustrative sample of student evaluations obtained from the PLC-based tutorial system. This sample in Appendix F includes interesting exhibits from a range of mixed learner targets using the SOL study kit, and is evaluated in section 6.2.3. The exhibits include student copies of completed 'active' and 'personal review' logs, as well as conversational accounts and personal feedback questionnaires.

The action research adopted the policy of social parity for student evaluations in general. That is, that the evaluations had to fulfil both the student and action researcher needs equally - hence, the policy of built-in evaluations serving dual purposes. These evaluations cover two types of personal feedback questionnaire (PFQ0 & PFQ1), student personal records, active and personal review logs, 'inter' and 'end-of module evaluation reports. Latterly (from October 1993) separate conversational case accounts were additionally obtained from a sample of long-term student-learners. A profile record of conversational evidences was also designed, and kept as part of the PLC student-file portfolio. This 'form' was intended to keep track of the student's SOL progress, by monitoring self-organised evidences, such as the keeping of logs, formal periods of review etc.

Some 'students' were also IT Workshop staff. This is because I run an ITFM option as part of the Exeter University franchised Cert. Ed. (FE) course. These Cert. Ed. students are some of the part-time IT tutors working in the IT Workshop.

Evaluations fed back from these vocational 'teacher-trainers' included both repertory grid conversations and an IT professional development report, including a personal 'reflective-practitioner' account of their own experiences.

6.2.2 Evaluations of Personal Feedback Questionnaires (PFQs)

The rationale behind the giving of personal feedback questionnaires (PFQs) to students has already been explained as serving both the learning needs of the student as well as myself as action researcher.

Exhibits of PFQ0 and PFQ1 are contained in the SOL study kit in Appendix C. The PFQ0 comprises 22 questions, which have been designed using the standard 'five-scale' response. The themes covered by PFQ0 intend to explore attitudes towards:

- learning delivery, style and environment;
- 'own' personal organisation competency;
- specific SOL-type activities, e.g. keeping a log;
- one's own literacy skills/competencies;
- conversational skills, interaction with others;
- personal 'planning' skills;
- previous learning experiences - c.f. the here-and-now experience.

Discovering these student 'attitudes' satisfies dual purposes:

- Relative to the students needs:

That conversation and self-awareness of one's own attitudes towards learning in general is crucial. That 'personal management skills' are required for successful operation in an IT FL environment. This activity is carried out as a diagnostic exercise, prior to negotiating tutorial purposes and a task-based agenda of ITFM GDAs. Thus, the tutor as learning coach can use the PFQ0 as a focused conversation, identifying any myths, problems etc., the student may wish to share. Hence, the need to develop a Rogerian-type relationship, based on congruence and trust. Problems diagnosed at this stage can then be incorporated into the student personal record, with negotiated solutions as part of the task agenda, e.g. extra support from Adult Basic Ed. Hence, the PFQs serve as part of the PLC 'therapeutic' feedback process.

- Relative to my own needs as action researcher:

By conducting these PFQ 'surveys', I should be able to sample a diverse range of student-learner targets over a two year period. My intention is to discover any common-factor consensus learner-agreements towards the learning themes investigated - i.e. SOL/PMS skills, FL environments etc.

Consequently, PFQ0s were completed by all IT case-load learners initially, and repeated at the end of the course programme by a smaller (but representative) sample. Whilst it was easy to ask new learners to complete PFQ0's prior to the course, it turned out to be very difficult to capture feedback from indeterminate roll-on roll-off adults.

This was because many of them would leave the course (without warning) at any time. This happened mainly because of the unemployed status affecting many of the IT adults, who were often required to leave college for work immediately a job vacancy appeared! However, valid samples⁵ of both PFQ0 repeats and PFQ1s were completed by a mixed range of IT Workshop learner targets.

The PFQ1 questionnaire comprised 14 questions, designed to raise student *learning-awareness* and provide feedback covering:

- personal success, relative to previously agreed action plan;
- attitudes towards autonomous learning;
- identified outcomes;
- ideas towards new areas of investigation for next 'plan';
- learning strategies and use of learning support aids;
- personal planning/management and 'thinking' skills;
- support from other IT Workshop staff;
- ready to propose new PLC/ITFM personal plan.

⁵Valid, relative to the 'small-scale' project inquiry being conducted. It is not the intention of this research project to extrapolate statistical findings to the entire UK FE population. The samples obtained, however, have been analysed using standard factor analysis in order to explore the 'common' learner attitudes towards the SOL/FL 'themes'. These *common attitudes* representing the 'hidden-meaning' *dimensions underlying* the correlated factors obtained from the sample.

The social parity purposes of PFQ1 were:

- Relative to the student's needs:

Feedback raising awareness of one's own SOL/PMS skills, i.e. learner-learning self-evaluation. PFQ1 also steers and orientates the student towards the next PLC personal record, empowering personal choice of ITFM study areas etc.

- Relative to my own needs as action researcher:

I hope to find out how learners are coping with the PLC personal learning plan system, in terms of whether or not they become more self-organised. Also, how this autonomously organised system of learning affects their IT performance, i.e. what learning progress is being made?

Individual student PFQs will be appraised against individual learner-sample reports and 'observed' activities, discussed in the next few sections: see 6.2.3 - 6.2.5. The rest of this section now concentrates on my analysis of the collected PFQ responses obtained over the period 1991 to 1993.

Thus, PFQ0 and PFQ1 evaluations were completed by IT learners as part of their ITFM course management learning process. The samples obtained for 'numerical' factor analysis included:

- 100 initially completed PFQ0s - all IT registered learners.
- 17 repeated PFQ0s - selected sample from the same IT learners.
- 15 PFQ1s - selected *learner sample* from the original 100 PFQ0s.

While the samples appear to be small, they do represent around 15% of the total IT Workshop population of IT registered-learners, i.e. all those doing PFQ0 initially as a common introductory survey of learning attitudes as part of the IT tutorial 'induction' process. It was a significant learning conversation that I had had with my CSHL tutor (Professor Laurie Thomas) that led me into adopting factor analysis as a *quantitative research tool*, as a means of helping to identify the *underlying meaning-dimensions* contained in questionnaire responses.

The idea behind factor analysis is to identify similarities and differences among data entities, which correlate together⁶ in the form of clustered groups of shared characteristics.

However, factor analysis is only a *quantitative analysis procedure*, measuring and processing numeric data - i.e. numbers. Accordingly, this quantitative analysis process cannot in itself attribute underlying meaning, either to the data put in, or the *data-results* given out. Yet, my conversation with Professor Laurie Thomas suggested that I was to somehow analyse these common factors, in order to determine the 'hidden-dimensions' of meaning contained in the factor-analysed questionnaire responses.

⁶Factor analysis is a special form of cluster analysis. From 'Cluster Analysis', [Bailey, 1970 pp. 2-4] we have: "Since assessment of *similarities and differences* among entities is a universal conceptual problem, we can anticipate a rapidly expanding use of the procedures of cluster analysis in nearly all fields of human thought and scientific study." Analysis of variables - called 'V-analysis' - took a special form of maths dimensional analysis labelled as 'factor analysis'. Referring to those maths procedures of V-analysis is called 'factoring'. Factors derived from factoring are interpreted as "underlying". The meaning attributed to these underlying factors is determined largely by the researcher [Everitt, 1974], whereby criteria for evaluating the meaning of cluster/similarities is connected to one's value judgements - i.e. a subjective qualitative treatment of 'results' by the researcher employing a 'Kelly-styled' construing process related to cluster similarities and differences, suggesting Kelly's triadic procedure from his dichotomy corollary in Personal Construct Theory.

From researching various technical sources explaining factor analysis procedures, I discovered from Thurstone⁷ the following:

"Analysis of successive differences in rank order - should lead to the factor pattern ... (which) ...is the main object of factor analysis. The actual numerical values are of secondary importance in teasing-out what we have called the underlying order of a new domain [i.e. the hidden dimension]. The simple structure concept is applicable as well to a non-metric form of factor pattern. ..The scientific interpretation of the factors could be made from a factor pattern without putting it in a metric form." (p.xiv)

My interpretation of using factor analysis as an experimental method to support qualitative analysis came by combining the arguments of Laurie Thomas with those of Everitt, Bailey and Thurstone. The final link to a New Paradigm experimental approach was obtained from Cohen & Manion⁸, where they suggest:

"In most instances factor analysis is preceded by a 'hunch' as to factors which might emerge. In fact, it would be difficult to conceive of a manageable analysis which started in an 'empty-headed' fashion. In selecting test material in the first place it must have occurred to the experimenter that the tests have something in common or that some are mutually different. Even the 'let's see what happens' approach is pretty sure to have a hunch at the back of it somewhere. It is this testing and hypothesis which forms the principal concern of most factor analysis." (p.368)

⁷Thurstone [Thurstone, 1965] hints at a more powerful use of factor analysis in the context of a non-metric approach - i.e. use of a qualitative rather than quantitative experimental process to determine the meaning behind the emergent factor patterns: "The main problem for factor analysis is the more fundamental one of charting the alternative factor patterns in new fields. To develop this subject with more powerful non-metric methods is future work that may leave our present efforts obsolete." (Preface page xiv)

⁸Taken from 'Research Methods in Education', where Cohen & Manion quote from D. Child's 'The Essentials of Factor Analysis', published by Holt, Reinhart & Winston 1970 [Cohen & Manion, 1990].

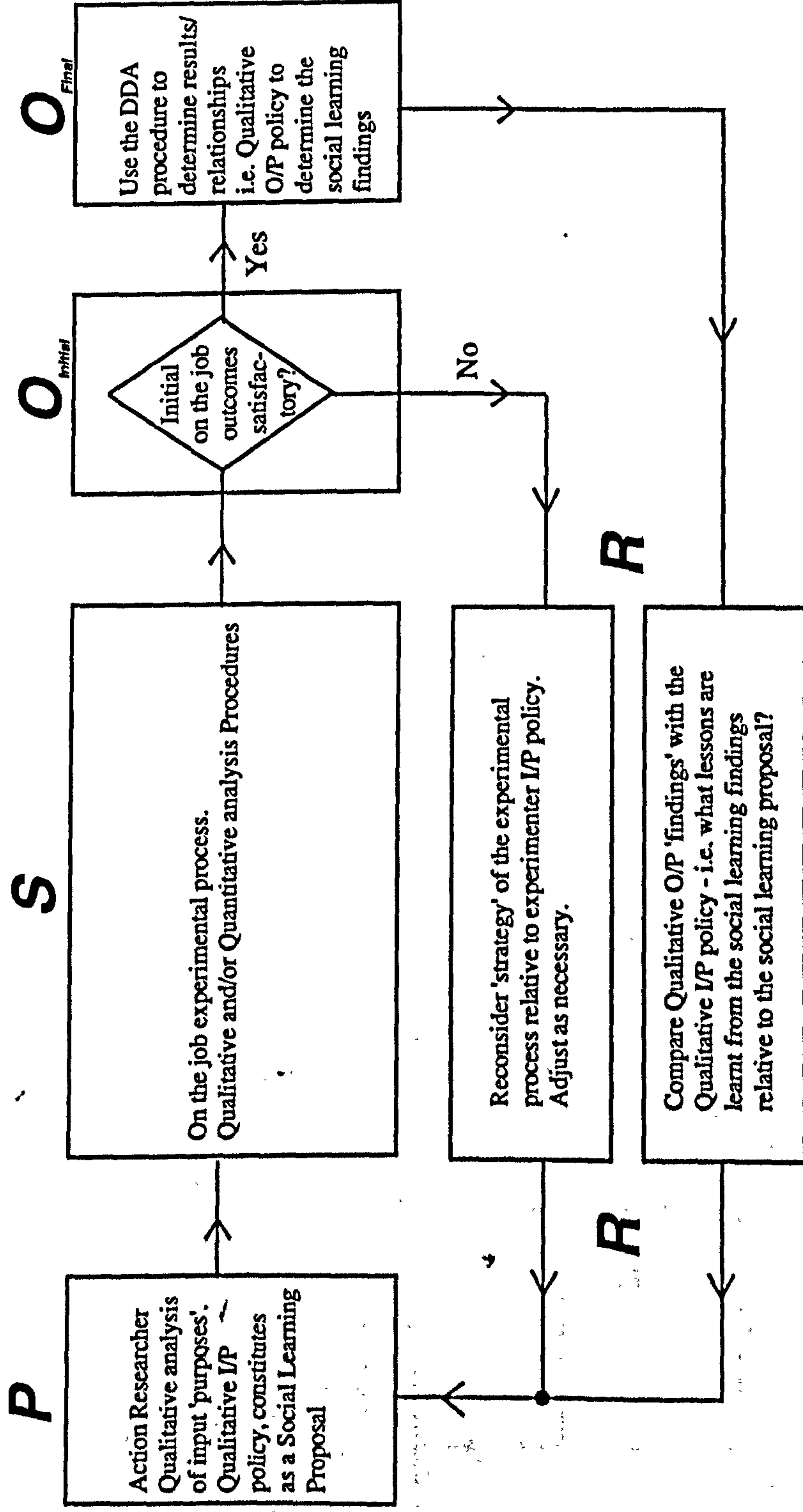


fig.(6.3.1) The PSOR process applied to the analysis of Conversational Paradigm methods for determining Action Research Findings

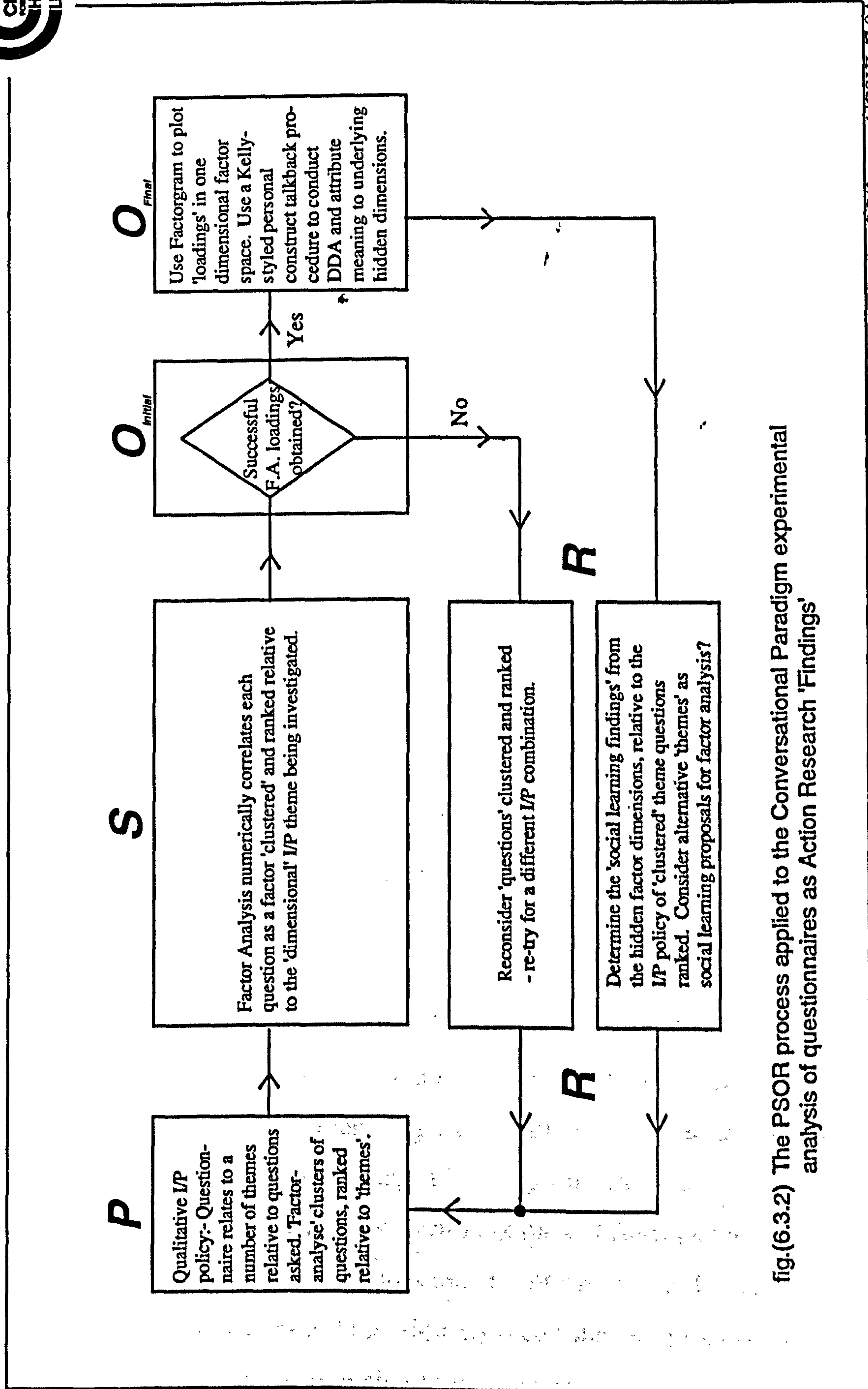


fig.(6.3.2) The PSOR process applied to the Conversational Paradigm experimental analysis of questionnaires as Action Research 'Findings'

Factor analysis therefore depends on the researchers' qualitative 'hunch' as to what data should be selected and ranked as a prior activity to 'input', as well as post-qualitative analysis of the data 'output' in order to determine the hidden underlying factor dimensions. Considering the whole experimental process, it would appear that there are three clear stages in the use of factor analysis:

1. Qualitative data-input policy - determined by researcher.
2. Quantitative data factor analysis - computer analysed.
3. Qualitative data-output policy - qualitatively analysed.

Thus, applying my SOL-based methodology to new paradigm action research, I propose to develop a conversational tool that will employ the discursive discourse analysis (DDA) technique, in order to find the hidden dimensions of meaning. In order to understand the experimental process employed, I used the PSOR 'tool' developed in chapter 4 (see fig.(4.4)) to produce an action research management template, see fig.(6.3.1). From this PSOR 'template' the specific process of analysing questionnaires using factor analysis was determined, see fig.(6.3.2).

From fig.(6.3.2) it can be seen that some form of talkback tool was needed to analyse the results obtained from factor analysis. After a number of action research learning conversations with Laurie Thomas, I came up with the idea of using a Factorgram in conjunction with a Talkback record. Basically, the factors outputted from factor analysis are plotted against each other as separate dimensions in factor space. Each factor is a separate dimension with coordinates proportional to the 'loading' of each question chosen for analysis.

FACTORGRAM[©]



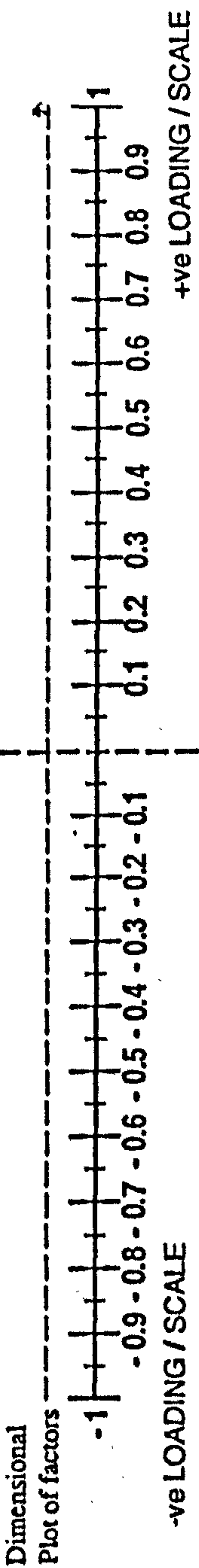
Original Variable Label

Factor No. No. of Dimensions

Dimensional Construct Label

No. of observed clusters

Elicited from Factorgram Talkback Record



Dimensional Personal Construct : -ve loading bi-pole

Dimensional Personal Construct : +ve loading bi-pole

RESEARCHER PROJECT REF: PLOT NO. DATE

SC/fgam2/CSHL/11.93

fig.(6.4) The Factorgram One-Dimensional Plot of factor 'loadings'

fig.(6.5) Exhibit of Talkback Record Used for Factor Analysis



FACTORGRAM[®] TALKBACK RECORD

Original Variable (factor) label No.

Total no. of (factor) dimensions No. of *projected* clusters observed

Rationale behind personal ranking of data input for factor analysis procedure i.e. input purposes

Interpretation of projected factor clusters relative to the factor dimension

Cluster factors	Laddered-up thoughts, ideas & personal suggestions i.e. cluster meaning

Describe what each factor cluster appears to represent, along with any mutual relationships

Now ladder-up an overall description of the factorgram dimension in the context of factor clusters

Researcher Project Ref: No. Date

fig.(6.6) Summary of Factorgram analysis of underlying dimensions from student survey questionnaires - PFQ0 & PFQ1

PFQ	Input ranking rationale	No. of		Dimensional constructs identified	App. Ref.
		Dimensions	Clusters		
0	All questions in original rank order to find out if different categories of learners affects learning attitudes.	3	2	SOL personal skills of adults c.f. school leavers.	F 2.1
			5	Positive prior learning experiences linked to SOL	
			5	Self-pedagogic skills linked to time-management.	
0	To rank questions relating to suitability of person to operate autonomously in an FL type venue - such as the IT Workshop.	4	4	Essential personal skills for FL success.	F 2.2
			4	Factors suited to CL delivery.	
			4	Scenarios for enjoyment of learning.	
			3	Time management organisation policy.	
1	All learner categories and questions from PFQ1 inquiry. Relating learner categories to overall PLC feedback themes.	3	6	SOL outcomes linked to PLC 'shell'.	F 2.3
			3	Personal skills learning thru' support - staff & self.	
			3	Autonomous & discovery learning via learning plans	
1	To rank questions selected in order of PMS/SOL skills criteria, i.e. ranked relative to own judgement of questions relevance.	3	3	Improved use of resources, reflective management.	F 2.4
			4	The learners 'PLC-shell' enables autonomy.	
			3	S-O-Lers learn IT more effectively.	
1	Experiment involving learner categories and questions related to support systems.	2	1	IT Workshop support system enables learning.	F 2.5
			2	Learning support systems enables learner support.	

The Factorgram (see fig.(6.4)) was designed so as to give a single dimensional plot of these factor loadings. Consequently, these question-factors will tend to form clusters along this dimensional axis.

To determine the meaning behind these 'clusters' the Factorgram talkback record was designed, see fig.(6.5). This talkback record discursively analyses the researcher's intentionality by use of a conversational 'laddering-up' process. Thus, the talkback record represents a conversational tool applied to DDA. By determining the Factorgram's *dimensional personal construct*, using this *non-metric* approach to cluster analysis, it can be seen that a Kelly-styled *qualitative experimental procedure*⁹ has been pursued. Indeed, this whole SOL-Kelly approach to factor analysis has similarities with the qualitative treatment of repertory grids, covered in section 6.3.2 - where DDA-talkback accounts are also employed as a qualitative experimental process.

Factorgram plots and talkback records were obtained from conducting factor analysis on 'PFQ0' and 'PFQ1' questionnaire responses: see the tabulated summary of dimensional findings in fig.(6.6).

⁹From Kelly's dichotomy corollary, dichotomous constructs are construed as 'bi-poles'. Kelly promulgates a practical means of developing 'relationships' between personal learning events as bipolar constructs. From 'Perspectives in PCT' [Bannister, 1970, pp.12-13], we have: "They.. ..(constructs).. ..are imposed upon events, not abstracted from them. They.. (constructs) ..are reference axes upon which one may project events in an effort to make sense out of what is going on. ..they are like Cartesian coordinates.. ..of analytic geometry. Events correspond to the points plotted with Cartesian space. We can locate the points and express relations between points. ..Thus the construct refers to the nature of the distinction one attempts to make between events." Thus linking Kelly to supporting the argument that social learning findings are represented by the personally constructed meaning systems attributed to the relationships identified between experiential events. This has been employed for the DDA-talkback accounts developed, i.e. for repertory grids, Factorgrams and time-line accounts.

FACTORGRAM®



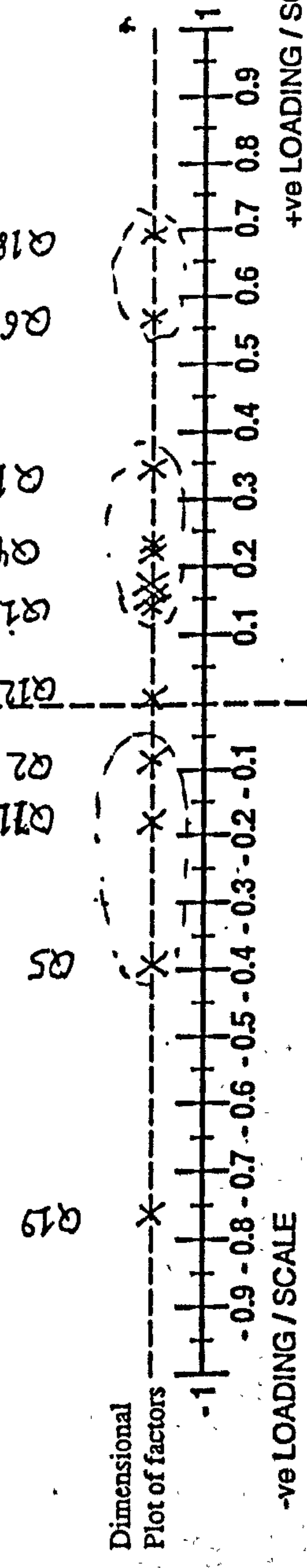
Original Variable Label: **Q4: Self Learning Rating.**

Factor No. **4** No. of Dimensions **4**

No. of observed clusters **3**

Dimensional Construct Label: *Learning dependency enabled type of time management policy.*

Elicited from Factorgram Talkback Record: *time management organization policy.*



Dimensional Personal Construct: -ve loading bi-pole

Dependent learning fostered through externally organized time management.

Dimensional Personal Construct: +ve loading bi-pole

Independent learning fostered through self-organized time management.

RESEARCHER: **S. Coombs - Ph.D.** PROJECT REF: **Learner attitudes to learning.** PLOT NO. **4** DATE: **26-11-93**

SC/fggram2/CSHL/11.93

fig.(6.7) Exhibit demonstrating use of the Factorgram to analyse underlying dimensions

fig.(6.8) Factorgram Talkback record used in association with factorgram plot exhibited in fig.(6.7)



FACTORGRAM® TALKBACK RECORD

Original Variable (factor) label Q4: Self learning Rating. No. 4

Total no. of (factor) dimensions 4 No. of projected clusters observed 3

Rationale behind personal ranking of data input for factor analysis procedure i.e. input purposes

To rank factor variables relating to suitability of peruse (response) to operate autonomously in an 'FL'-type venue/environment.

Interpretation of projected factor clusters relative to the factor dimension

Cluster factors	Laddered-up thoughts, ideas & personal suggestions i.e. cluster meaning
Q19 - isolated Q5, Q11, Q2	external directed time ratings. Directed learning + info bc. summaries + lecture notes ratings. } rel relative to anti-hurdle learning scenarios.
Q-12 - isolated Q15, R1, Q22, Q4, Q17 Q14	Original ideas from text ratings. Recommends + net formal delivery + self-learning + personal learning essays + personal design and reports ratings.
	Self relate to people enjoying learning whether formal or flexible if they have a certain set of self-learning and management skills.
Q6, Q18	Self-organised planning + personal management of time ratings. relates self-organised skills, to, personal management skills, indeed self-planning with ability to manage personal time.

Describe what each factor cluster appears to represent, along with any mutual relationships

Most +ve cluster in 'self-learning' factor dimension attributes personal planning with ability to manage one's own time. 'largest +ve' cluster seems to suggest idea of an individual's self-learning and management skills that can flourish independently to the learning environment scenario. The -ve dimension cluster relates summarising of information with skill of using lecture notes to a directed learning scenario with passive learning over time.

Now ladder-up an overall description of the factorgram dimension in the context of factor clusters

Management of time seems to occupy each extreme of the dimension spread of facts. Thus, self-learning -ve dimension relates to other control of time; whereas the +ve extreme of the same dimension relates to an individual's ability to manage time through personal planning/management skills i.e. self-organised learning is a time-dependent active management process. Thus, independent learning requires personal planning/organisation time management skills.

Researcher J. Lamb - Ph.D. Project Ref: Learner attitudes to learning. No. 4 Date 26-11-98

All of the Factorgram and talkback records produced for this summary in fig.(6.6) are contained in Appendix F2. Exhibits from F2.2 are provided as typical examples in figs.(6.7) & (6.8).

The PFQ responses were converted into a database numerical data file and 'read' into SPSS¹⁰ for factor analysis processing. The meaningful data output from this quantitative analysis were the dimensional coordinate-loadings. Sample print-outs of the SPSS data files processed are contained in Appendix F1. The social learning findings from these Factorgrams will be discussed in the next chapter.

6.2.3 Evaluations taken from 'ITFM' student accounts

As part of the PLC tutorial management process, student records were obtained on-the-job in the IT Workshop. These records include evaluations from the SOL study kit, as well as other written evidences. For those students still around in late 1993, a Conversational Case Account feedback record was also obtained. A cross-section sample of six typical students attending the IT Workshop is included in Appendix F : see sections F3 to F8. These examples represent the mixed-target nature of students attending the IT Workshop, tracking their individual learning progress.

¹⁰SPSS - The Statistical Package for Social Scientists [Norusšis, 1986], was employed as a statistical software package. Ashton Tate's 'DBaseIII+' was used to create the questionnaire data files, for which SPSS has a compatible input filter.

fig.(6.9) Exhibit of Geoff's PLC Conversational Case Account

Conversational Case Account



Please enter in the spaces below information and any other supporting evidence you can recall accounting towards your overall progress so far, including future learning intentions. If you find this exercise difficult, then try using a Spidergram to focus, identify and record your experiences prior to completion of this account (it should help you to collect your ideas!). Information recorded from this account can be used towards constructing personal statements for Records of Achievement, Reflective Journals, Personal Learning Biographies etc.

What are the most important things that you have learnt for yourself since starting your programme of work?

SELF-MANAGEMENT - PLANNING WORK, & USING TIME WISELY
PROBLEM SOLVING - USING THE MATERIALS AVAILABLE AND THE ADVICE OF TUTORS, AS WELL AS THE CAL PACKAGES.
LOGGING OF ACTIVITIES - THIS HAS BEEN HELPFUL IN AIDING MY ABILITY TO EXPRESS MYSELF.
I.T. SKILLS - EXPERIENCE OF PCs, DOS, WINDOWS, & WORD PROCESSING.

What are the most important things that you are currently learning and find yourself involved with now?

I AM CONSTANTLY DEVELOPPING THE ABOVE SKILLS TO A GREATER DEGREE.
CURRENTLY, I AM LEARNING ABOUT DESK TOP PUBLISHING / PAGEMAKER, AND AM COMPLETING THE WORD PROCESSING LEVEL ONE C & G TESTS.
I AM ALSO BECOMING FAMILIAR WITH FORM FILLING. I BELIEVE THIS PROCESS IS HELPING ME TO LEARN TO EXPRESS MYSELF BETTER, AS REGARDS MY THOUGHTS, FEELINGS etc.

What learning activities do you hope to be involved with in the future?

I HOPE TO GAIN EXPERIENCE OF DATABASES AS THIS COULD BE OF USE IN MY UNIVERSITY STUDIES OF ARCHAEOLOGY.
I WOULD LIKE TO GET TO THE LEVEL THREE TESTS FOR EACH OF THE MODULES THAT I UNDERTAKE.

Case Name

GEOFF EDWARDS

Record Date

03/11/93

SC/CCA1/CSHL/10.93

The students sampled were:-

Student name	Target - Status	Appendix Ref:
Geoff Edwards	Part-time ex-college student	F3
Jonathon Leonard	Full-time school-leaver	F4
Heidi Johns	Full-time A-level student	F5
Johanna Webberley	Part-time day-release	F6
Linden Jones	Part-time woman-returner	F7
Kevin Treleaven	Full-time school leaver	F8

Exhibits include Geoff's in Appendix F3, where typical examples of how the action and personal review logs have been usefully utilised as part of the personal management process. Indeed, Geoff reports in his PLC Conversational Case Account - see fig.(6.9):

"I am also becoming familiar with form filling (review, reflection etc.). I believe this process is helping me to learn to express myself better, as regards my thoughts, feelings etc."

The interesting thing is that Geoff is an example of a brighter student with already good GCSE and A-level results. Despite this advantaged base, he has clearly benefited from improved personal organisation and now demonstrates SOL skills.

Geoff, however, is to be compared with the next of my student examples Jonathan - see evidences in Appendix F4. Jonathan was a school-leaver from Penrice school, Charlestown, St. Austell. He joined MCC in September 1992. His highest GCSE grade was a D in English with two Gs in Maths and Art. As an under-achiever he made a slow start, but was enthusiastic to 'get-on'.

After 2 years at MCC and SAC on my C+G 7261 ITFM course he had developed into a confident person, acting as a peer-tutor for other learners in the IT Workshop. He left college in May 1994, with an NVQ 3 equivalent advanced diploma¹¹ in computer applications. He obtained a six month post working as a trainee technician for the Brannel comprehensive school at St. Stephens, near St. Austell. Jonathan also obtained a place at Falmouth school of Art, on the Foundation course. This is a one-year feeder course allowing him progression onto the graphic information design degree course. As part of Jonathan's SOL capabilities, he organised for himself a 'voluntary' day-release work placement at the Bodmin office of the Cornish Guardian. Being interested in graphics, he spent his time in the advertising department.

In answer to questions of personal organisation in PFQ1 Jonathan says:

"I am sort of organised already, my folder is in order but I could have stuck to the WP plan a bit better though" - in response to Q.10.

"I am doing a more in-depth log book, as before there wasn't enough depth in them." in response to Q.5.

"I feel that I can work on my own and get the work done. If there is something I am not too sure about I would ask a tutor." - in response to Q.4.

Jonathan's conversational awareness is also demonstrated through the use of his logs as personal management referents - see Appendix F4. These logs were used as part of Jonathan's personal support system, in conjunction with his ITFM learning plans.

¹¹See Appendix F4 exhibits. An exhibit of Jonathan's NVQ2 equivalent diploma in computer applications is included. His level 3 was awaiting final completion at the time of writing this chapter.

Very quickly, Jonathan became a self-organised learner, capable of helping both himself and other learners attending the IT Workshop.

The next of my sample students is Heidi Johns. Heidi started college as a gifted student from the Roseland school, where she obtained six grade As in her GCSEs. Heidi started three A levels in the college, she dropped one through lack of interest, but continued with Maths and Communications. In order to pursue her interest in graphical design as part of her A level communications project, she joined the IT Workshop. As a consequence, she spent the next year with us, while finishing off her two A levels. She then decided to stay at the college part-time, to obtain NVQ 2 & 3 in generic IT subjects, in particular Desktop publishing. She is now completing this task and has also been offered a number of places on vocational degree courses related to her interest in print management and design.

One interesting comment fed back by Heidi was on her Inter-module evaluation form - see Appendix F5. In answer to how personal support in the IT Workshop could be improved, Heidi says:

"The staff are always very busy and very occasionally there is no-one available to help."

Heidi started in the IT Workshop with a considerable amount of personal skills. Consequently, she was able to adapt to FL very easily needing minimal 'coaching'. The support Heidi did require concerned mainly specific IT related problems. Her 'fluent' logs demonstrate the degree to which she was well organised as a person.

My next student example is Johanna Webberley - see Appendix F6. Johanna was a day-release student working at Kemutec, a small business located locally in St. Blazey. She came to college as part of a training scheme to brush-up on her IT skills, in particular spreadsheet and DTP ITFMs. Johanna was a well organised person and quickly adapted to working in the IT Workshop. Her logs in appendix F6 clearly demonstrate her learning awareness. From Johanna's Inter-module evaluation form (see exhibits in F6) she states how she progressed in the ITFM learning plan from learning dependency to independent learning:

"The certificate exercises ..(Johanna's language for the learning plan issued to her).. advised you what to do but this advice grew less as you worked through the parts. This was good as you became less dependent on being told what to do and used your own initiative".

That clearly demonstrates Johanna's *awareness of the learning process* underpinning the IT learning plan progression, i.e. from 'leading-the-learner' to becoming 'learner-led'.

My next case-study student example is Linden Jones - see Appendix section F7. Linden was an example of a part-time woman-returner to education and training. Her case was interesting for a number of reasons, but in particular she had an initial problem over her general lack of confidence. This was demonstrated by her general approach to learning. On a number of occasions I was involved with Linden's desire to have a tutor 'with her at all times'. Linden would constantly seek advice every five minutes and would tend to 'hog' the tutor for a permanent one-to-one support session.

After a number of learning conversations with Linden I ascertained that she was not prepared to risk experimenting with any strategy, other than those listed didactically in our IT courseware manuals. There are two problems behind this approach. Generally, IT systems cannot be learnt effectively without a reasonable degree of user experimentation. Secondly, this 'strategy' of Linden's appeared to be associated with her general fears of being a woman returner to the world of work and training. She told me that trying things out represented a risk, and that she was reluctant to do this. After several tutorials I managed to persuade Linden to take a risk! She found - to her surprise - that 'experimenting' did work. From there on Linden worked happily through the IT modules, obtaining her C+G 7261/407 in DTP. After only two months she obtained a job working in the advertising section of the local Cornish Guardian newspaper office.

Linden's own evaluation of her course was summarised as follows:

"Without the support of this course I would not have been as useful in my employment which I have just gained, but it also gave me confidence to follow-up applications with which I was unfamiliar. A very useful and helpful course."

The last of my student case studies is Kevin Treleaven - see Appendix section F8. Kevin was an interesting student as he had joined my full-time BTEC FDIT (First Diploma in IT) course as a school-leaver. He was very quiet and had social problems with other students on the course. Because I had just started my full-time C+G 7261 ITFM programme, I was able to offer Kevin a transfer.

Kevin not only accepted this willingly, but also registered to take A level maths. Kevin concentrated on gaining the NVQ IT qualifications in programming and developed a strong relationship with Janet Sarah, the module tutor, as well as other students on the FL course - a mixture of school-leavers and mature adults. At the time of writing this chapter Kevin was offered a place at Cardiff University, to follow a vocational degree in computer science. Section F8 contains evidence of his academic progress - reports, certificate requests etc. One of the key problems Kevin had to overcome was organising his thinking and management of time. From tutorial progress report No. 5 Kevin writes:

"Organise thoughts and time and rapid scheduling of timetable changes. All reference material is mixed together."

After discussing this in our tutorial, Kevin agreed to try and organise his work more efficiently, suggesting strategies for overcoming these problems. Personal time-management was a recurring theme for Kevin, but eventually he became better organised and overcame this problem to a large degree.

6.2.4 Reflective feedback accounts from Certificate of Education (Cert. Ed.) students

Student case studies were also obtained from a sample of my Cert. Ed. students following my ITFM as part of an IT course option.

Evidence from two students (Fran and Simon in Appendix E) has already been discussed in chapter 5 as part of assessing non-IT applications of the Universal Design Template.

The UDT was developed principally for authoring ITFM learning plans, but several of my Cert. Ed. students used it to 'flexibilise' their own courses.

Other students on my Cert. Ed. ITFM included the following small sample that I have selected as part of my feedback for this section:

Jenni Newton - part-time business studies lecturer at MCC.

Chris Johnson - part-time building construction lecturer at MCC.

Hilary Baker - part-time IT lecturer working in the IT Workshop.

John Perry - full-time (since 1/9/93) IT lecturer from the IT Workshop.

All the above case-study evaluation records are contained in Appendix G : Cert. Ed. ITFM Professional Development Reflective Accounts. Appendix G contains full records and accounts fed back by each student, they are organised into the following sections:

Jenni Newton	Appendix G1
Chris Johnson	Appendix G2
Hilary Baker	Appendix G3
John Perry	Appendix G4

I propose now to feed back any interesting findings that each of the above students makes; both about their own learning and relevant observations of the IT Workshop development as they perceived it.

Looking at the feedback materials as a whole, it is to be noted that each student was encouraged by myself to 'do their own thing'. This is why each student has adopted different conversational tools and techniques to support their own professional development. I made them aware of the possibilities available, but they were free to select whatever tools they thought best suited their needs at the time - hence, the variety and diversity of all four accounts in Appendix G.

Feedback from Jenni Newton : Appendix G1

Jenni chose the IT optional module in July 1991 and completed her project by January 1993. Jenni's account of her own learning awarenesses provide an insight into the difficulties she experienced in both learning IT and organising her 'life'. Her final report is a desktop published biographical account of her learning experiences over the period concerned.

One of the key reflections Jenni makes is her account of how she responded to the initial personal feedback questionnaire (PFQ0):

"..I responded to the PFQ as I would like to be, not as I am. I feel that I was strongly encouraged to take responsibility for my own learning and was unable to express my need for some initial 'input' ".

Jenni admitted quite openly that she had a short concentration span and lacked in motivation. She often found the IT Workshop full, but was unable to book and reserve a workstation in advance.

Despite all these problems, Jenni was gradually able to gain her confidence and participate in new venues such as the Open Business Centre at Sedgemoor (which has less tutorial support than the IT Workshop).

Jenni demonstrated an awareness of her own learning by questioning the ethics of keeping learner records:

" ..Are they (records) for the learner, or the tutor, or both? Who 'owns' them? Should they be kept indefinitely? ..Are the records confidential - who has access to them, and for what purpose?"

On page 7 of Jenni's report she asks three key questions about her own progress and strategy. Once in charge of her own learning agenda Jenni settled down and made great-strides. From Jenni's one day FL presentation she fed back the following learning:

" ..I have realised that flexible learning must be adapted for individuals and must meet their needs. I felt that, if I am to return to the IT Workshop, I must assert myself, repeat my goals and work towards achieving them."

In Jenni's conclusions she relates confidence to managing both her learning and time and links this to catering for individual student needs:

" ..If I had been more confident I feel sure that I could have managed my learning (and my time!) more effectively. This experience has certainly made me aware that our students are individuals, that they must (sometimes) be helped to realise that their needs are all that matter to them, and that schemes of work may have to be adapted or even rewritten if that is what it will take to fulfil the students' needs."

PERSONAL LEARNING BIOGRAPHY: NAME

JENNI NEWTON

Date	Participation in S.O.L Activities	Evidence of Learning		Outcomes associated with S.O.L	
		Learners own view: Changes in attitude and understanding	Others' observations: Changes in the learners' behaviour	Outcomes valued by the learner	Outcomes valued by I.T. tutor 'Subjectively' assessed 'Objectively' measured
15/12/92	Writing professional package, using I.T. I showed be similar with quickly and easily	Frustration eventually overcome by perseverance, although I did not know as soon as I did I discovered I mastered one package I discovered another!	S.O. I showed one next year that Jenni had gained a personal employee and became better organized	confidence, professionalism, opportunity to be a student & realise obstacles in their way	Better organized Used 17 packages eg. word-processor
	DTP & its evolution's potential for producing professional resources	Enthusiasm - I'd like to produce assignments/instruction for local business.	learned from tips with graphics, using an-atom keyboard eg. inputting information	including personal thoughts, feelings & activities. The individuals emerges strongly. Teaching & learning methods.	learning and the different packages. problems faced by the individual Learner - has learnt and applied skills to project.
		Professionalism & confidence Ability to "get what I want"			socially to reflect on own teaching experience "Managed difficult change" - DTP management techniques have & work.

SC/KR/PLB/CSHT/1/0.91

fig.(6.10) Exhibit of Jenni's Learning Evaluation, using the S-O-L 'PLB' template

In conclusion Jenni had, after a shaky start, professionally developed her SOL capability (see Jenni's evaluation of her own learning in fig.(6.10)) demonstrating a higher level of awareness of her own profession as a business studies practice teacher. In her conclusions Jenni admits that despite " learning logs alienating me ", she is now better organised:

"I am better organised than I used to be, partly as a result of 'looking at myself' when I realised keeping a learning diary destroyed my enthusiasm, and partly as a result of meeting deadlines for Cert. Ed. assignments."

Jenni also extolled the use of the Spidergram tool offered her:

"The Spidergram is excellent for formulating ideas, setting the logical sequence of achievements and revising targets. I now find it difficult to start an assignment without first clarifying my thoughts using this resource.."

Jenni's final conclusion links her new-found personal confidence to her own ability to *manage learning* and develop personal strategies:

" ..I have gained a lot through completing this option, not just about IT and its place in my teaching, but about managing learning and in increased personal confidence. ..this option has taught me a lot about learning strategies in general and myself in particular."

Feedback from Chris Johnson : Appendix G2

Chris chose the IT optional module as part of his Cert. Ed. course from September 1992, completing his project by December 1993. Chris is an example of a part-time lecturer working in the Building & Construction department of the college, whilst also running his own private building/consultancy business in Truro.

Chris ran a successful IT project and has fed back his 'learning' from both his teaching and private business experiences. Of the many criticisms Chris made about the IT Workshop, he felt the following areas needed improvement:

- More tutors available 'on the floor' both during college hours, but particularly outside of hours as well, i.e. early evenings.
- Technicians to be resident in the IT Workshop, under the command of tutors running the IT curriculum programmes.
- More didactic formal sessions to begin with before launching into individual FL programmes, i.e. a longer induction/group-workshop programme for Cert. Ed. students than the current three sessions.
- Improved equipment standards/policy, i.e. all machines capable of running the same software.

All of the above points have been made by Chris through his evaluation feedback records.

In particular his comments in the PFQ1 evaluation of his own programme and future course of action was given in response to question 9 : '*Does variety of learning resources make any difference to you?*' and, '*which resources have been useful?*' Chris says:

"..Variety enables selection best suited to the individual. (With useful resources quoted as) Tutorial support. Other students - peer group."

One of the key benefits Chris obtained from doing this option was to convert his bricklaying course into a more student-centred flexible learning delivery style:

"Following this option (I was) able to identify (a) method of producing student-centred learning packs for bricklaying skills."

Chris demonstrated an incorporation of not only IT skills to produce the study-packs concerned, but an awareness of how to transfer the flexible approach experienced by himself into his own professional sphere of influence - hence demonstrating a high degree of learning awareness of the process he experienced/learnt himself.

Chris also decided to keep his own style of active log, but used the personal review log to feed back his learning. Exhibits of these are enclosed in Appendix section G2. In particular Chris provides an insight into the nature of the individual tutorial system experienced, compared with actual IT Workshop hands-on activities.

In appendix B of his own report (see exhibits in G2) he logs a total of 187.75 hours spent on actual practical IT project work, plus records the six key tutorials booked with me over the same period. The tutorials amount to a personal input by myself of some 7 hours, i.e. a ratio of hands-on activities to tutorial input of around 27 to 1. Chris's report in Appendix G2, provides a good example of a reflective account submitted by a Cert. Ed. practising tutor in the college. It also provides a 'flavour' of what it is like to be a student operating in the IT Workshop, following one of my ITFM programmes, with all the practical problems entailed in running such a venue for such a wide and diverse client-base of users. I feel Chris's overall conclusion (which links the 'constructs' of frustration and enjoyment) sums it all up:

"I have to say that despite the frustrations experienced I have thoroughly enjoyed this particular option. I intend both to continue the use of computer systems at the College and use other software packages available when time permit(s)."

Feedback from Hilary Baker : Appendix G3

Hilary is one of the 'team' of IT Workshop tutors and has been involved with the development since September 1991. As a 'new-comer' to teaching, Hilary has taken the three-stage Cert. Ed. (FE) option, with all her practice teaching revolving around her experiences in the IT Workshop. As Hilary has been involved in both personal and curriculum development on-the-job in the IT Workshop, she has participated in a number of my wider studies involving use of the CSHL repertory grid.

In particular, her professional feedback for her IT module includes several Personal Learning Biography (PLB) records gleaned from her actual on-the-job experiences with the 'team' and IT students in general. These PLB records were summarised from Hilary's own diary/reflective-journal and her talkback records produced from her various repertory grid conversations. In particular Hilary participated in 'grid-based' conversations with both myself and also as part of John Perry's Cert. Ed. IT project (where John independently chose to use the CSHL repertory grid to further his own investigations). These grid conversations are included in section 6.3 : Evaluations from staff involved in the IT Workshop domain.

Some of the key aspects of Hilary's reflective development include her awareness of what it is like to be both a novice to IT and teaching in general, as well as a woman-returner. Hilary started-out in the Open Learning Centre (OLC) of the college where she reflects:

"I started learning my own IT skills initially as a learner at the OLC. This was two, nearly three years ago so in actual fact my memories of first using a computer and being a person wishing to update skills learned a long time ago are very fresh in my mind. This has helped me when pursuing my active and reflective experiences in becoming a tutor in the IT Workshop.. I decided to identify all the learning evidences that have been particularly significant during this time as a new tutor. With the help of Steve Coombs who has been very supportive in using the grids, I have been able to identify significant outcomes that have been good for me".

As will be seen in the subsequent sections, these 'outcomes' include Hilary's awareness of identifying with other women-returners to FE,

with a particular empathy for overcoming their fears regarding computer-phobia and coping with new technology systems in general.

Some of Hilary's learning awarenesses fed back on her Personal Learning Biographical accounts include:

- Organising and managing time for assignments.
- Initial doubts regarding capability (lack of confidence).
- Slow learning in an isolated environment.
- Increased awareness of each learner as an individual.

Outcomes valued by Hilary included:

- Gain in self-confidence through contact-experience.
- Likes one-to-one learner-tutor relationship.
- Values support of the 'team'.
- IT personal skills gained and fed back to other students.
- The necessity of tutor support for other students.
- Working with adult learners, women-returners in particular.

I shall return to Hilary's evidences in section 6.3.

Feedback from John Perry : Appendix G4

Like Hilary, John is also an IT tutor working in the IT Workshop. John has worked with me as a part-time IT lecturer since 1989 and the origins of the IT Workshop development in September 1990. John was recently made-up to a full time lecturer, from last September 1993, and works alongside me in the new Trenarren FLC IT section.

John also, has pursued the Cert. Ed. (FE) as part of his on-the-job professional development and has become his own 'action-researcher' for the IT optional project that he elected to do. As such, John has used the CSHL repertory grids to pursue his own interests/development, whilst also agreeing to complete a range of grids with myself, including FOCUS and CHANGE grid procedures - see section 6.3, 6.3.2 : Evaluations using repertory grids.

For his own professional development IT project option, John decided to investigate 'Optimum Group Sizes for IT' - His report/evaluations are included here in Appendix section G4. As part of his project John involved myself and two other 'team' members, Hilary Baker and Peter Reed. I made available the CSHL resources for him to use under the auspices of my own action research project - on the basis of social parity and *operational congruence* within my own Systems 7 field of the IT Workshop.

John's 'findings' include the following:

1. Management empathy with the teaching situation, including group sizes as an educational practice 'issue'.
2. The need for groups to be managed according to a 'democratic' style of management.
3. The degree of 'choice' individual learners have within a group-situation.
4. Peer-support and the team-approach for when managing a FL environment such as the IT Workshop.
5. Optimum group sizes need to be enforced with stand-alone isolated IT evening classes, that lack the normal learning-benefits of the IT Workshop, i.e. no immediate peer support, technical support, administrative support etc.

John's IT project 'findings' independently confirm my own evaluative experiences, where I too have learnt of the importance of both the 'practitioner-team' and 'peer-tutor' approach towards the human-resource management of enabling learning in the IT Workshop.

6.2.5 Social learning observations in the IT Workshop

As reported earlier in chapter 2, the idea behind this section was to evaluate investigations into social learning group encounters witnessed in the IT Workshop. Because of the transient and diverse nature of the learners in this open-systems environment, I have devised a record to encapsulate a number of 'snap-shot' instances as feedback evidence of the actual 'spirit' behind what goes on.

All the evidences were formally recorded over 30 minute sessions, randomly between February and May 1994. In addition to these 'snapshot' observations, personally witnessed significant social-learning evidences have been elicited by myself and John Perry and fed back as a FOCUSed repertory grid conversation. The records and grids are to be found in Appendix H : Social Observation Records and Grid Conversations.

Of the ten social observation records recorded (see section H1) by myself and several other tutors, the key findings were as follows:

- All generic IT sessions in the Trenarren FLC consisted of mixed groups of learners, with foundation learners outnumbering adult life-long learners by usually two-to-one.
- Observed interactions were witnessed between student-to-student, staff-to-student and staff-to-staff. These included extensive observation of full-time ITFM C+G 7261 students acting as peer-tutors to all other student users in the centre, including drop-in staff.
- Staff were often seen interacting with one another in order to solve unpredictable spontaneous problems, both academic and technical.
- Rapid fluctuations in student numbers was also observed, ranging from half-full one minute to 'over-loaded' the next.
- A chance visit by my local MP - Matthew Taylor - with the Principal, was also observed, whereupon they expressed their interest in the diversity of learners present.

SPACED FOCUSED GRID

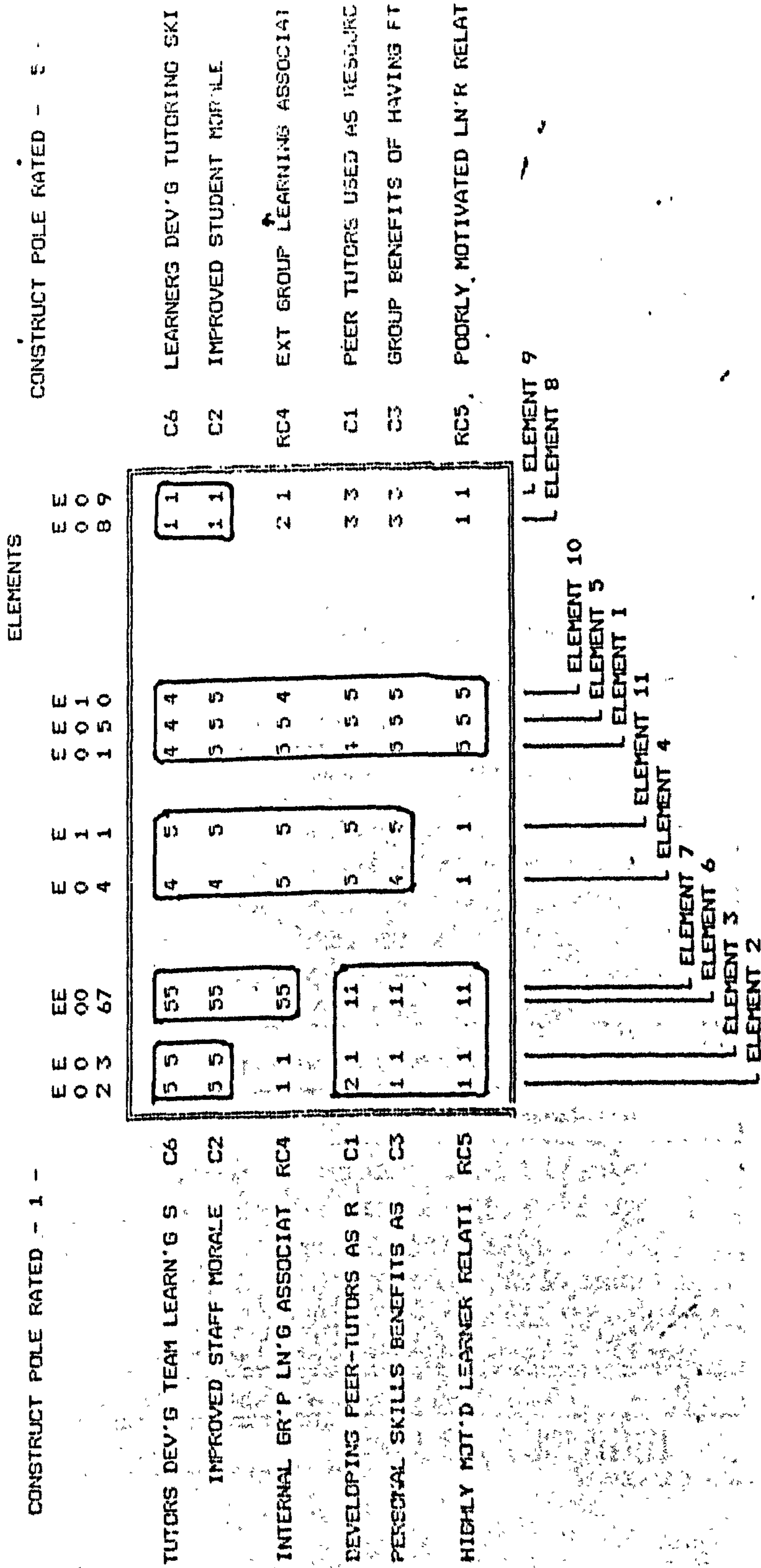


fig.(6.11) Exhibit of grid 'STEVE COOMBS'

fig.(6.12) Talkback Record for grid 'Steve Coombs'

PATTERN OF MEANING : LADDERING-UP ANALYSIS RECORD.

Enter significant ideas/thoughts generated for each element cluster considered.

Element Cluster	Record of Personal Feedback
E4 + E11	Part-time adults also keen to act as par-tutors with other learners in the IT workshop.
E1 + E5 + E10	Various full-time IT students voluntarily forming up and T groups, to work together + operate individually as par-tutors.
E8 + E9	'Team-teaching' and 'on-the-job' co-operation between IT workshop tutors/support staff.

Enter significant ideas/thoughts generated for each construct cluster considered.

Construct Cluster	Record of Personal Feedback
C6+C2+RC4 + C1 + C3	Learning benefits accrued by both individual and inter-group learning attending IT workshop via par-tutors.
C6+C2+RC4 + C1 + C3+RC5	Without par-tutor relationship by some learners is partly motivated.
C6 + C2	Tutors developing team learning skills 'boosts' staff morale.

Consider the total pattern of meaning for each element cluster in each construct cluster.

Element Construct Cluster	Record of Personal Feedback
E4,11 + C6,2,RC4, C1,3	Part-time will-on will-off adults gain confidence via informal par-tutor relationships with full-time ITM students. Many seek to replicate.
E1,5,10 + C1,2,3,6, RC4,RC5	Par-tutors emerge mainly from ITM full-time students. They have helped to motivate other 'isolated' learners working in IT area.
E8,9 + C2,6	Staff/practitioner teams develop mutual skills and morale thru 'on-the-job' co-operative learning support.

Review focussed grid in light of the original purposes/aims intentionality.

Purposes and Aims	New Learning achieved upon reflection
Relative to 'right-hand' three clusters considered above, bearing in mind 'sheet 1'?	Positive learning thru social relationships, i.e. interaction between learners aided by par-tutors as a 'learning-catalyst'. Whilst similar learner-constructivist benefits also accrued between 'staff-staff' dyadic interactions, consequently, all these associations has led to personal skills benefit by all 'learner'.

Learning Focus:

Observation of social interactions in the IT workshop. - 2.

Clients Name:

S. Coombs

Date: 16 / 06 / 94

- Voluntary IT task-groups formed and disbanded on multiple occasions. Most groups were usually dyadic in formation, however, a number of triadic groups were also seen. Most informal groups spent a short while discussing social issues of a common interest (e.g. football results etc.), before going on to discuss the IT task and problems encountered. People identified by the student body as peer-tutors were encountered more often than official tutors on 'floor-duty'. Even remote staff using the centre seemed 'happier' to approach my student peer-tutors more often, rather than myself or other tutors available.

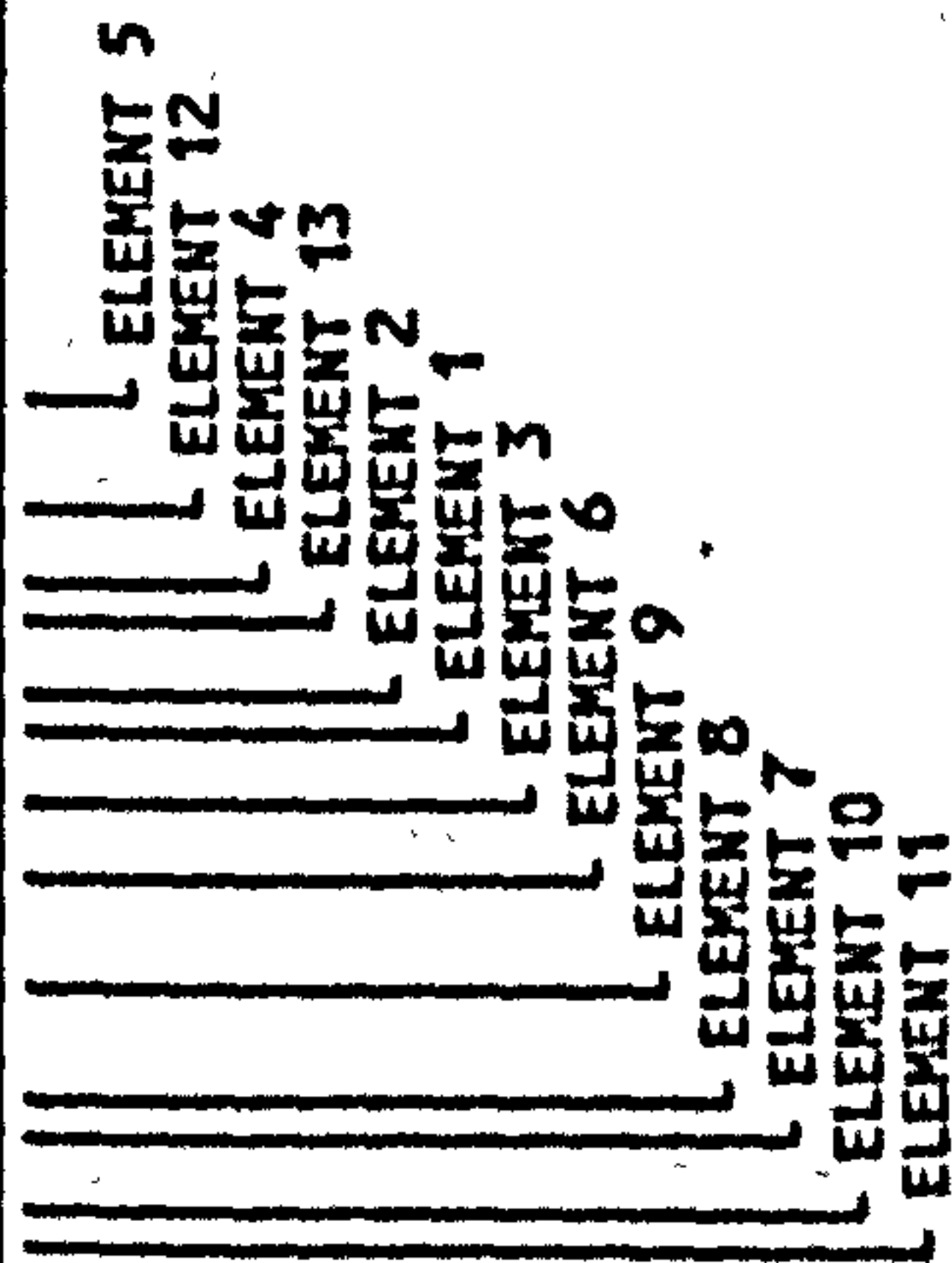
Thus, situations were observed in the FLC IT Workshop which confirmed all the associative interaction possibilities highlighted by my seven degrees of learner freedom in chapter 2, including the freedom to disassociate by lone study. Many students were seen switching rapidly between the state of association and disassociation with other learners-tutors in the venue.

My social observation repertory grid conversation (see H2) elicited eleven items of personal experience. Some of these 'observational' awarenesses were recalled from my periods of snap-shot observations, but most were 'remembered' from significant personal experiences I had witnessed whilst working in the IT Workshop. These experiences were recalled and recorded on the Spidergram enclosed in section H2, with six personal constructs identified by myself using the Triadgram tool that I had developed for this purpose. These were then entered as a five-point scale on a raw grid and SPACEd FOCUSed using the CSHL software - see fig.(6.11). I then ladderred-up the meaning behind the six observed clusters in fig.(6.11) to produce the talkback summative account in fig.(6.12).

GRID - JOHN PERRY - V01

SPACED FOCUSSED GRID

CONSTRUCT POLE RATED - 1	EE EE E E E EE EE E 11 -- - - - 1- 1 - 10 78 9 6 3 12 34 2 5	CONSTRUCT POLE RATED - 3
TEACHER - FACILITATOR C4	11 11 3 3 1 11 11 3	C4 STUDENT FACILITATOR
ATTACKS ON INDIVIDUALS : C5	12 22 2 3 3 11 11 1	C5 ATTACKS ON GROUP
NEGATIVE DISCR'M OF WOMEN RC3	22 33 2 2 2 22 22 1 2	RC3 POSITIVE DISCR'N OF WOMEN
LACK OF TEAM C2	33 33 3 3 3 33 11 1 1	C2 EXISTANCE OF TEAM
SENIOR MANAGEMENT - UNPROF'L C1 FLC BAD RELATIONS C6	33 33 3 1 1 11 11 1 1 33 33 3 1 1 11 11 1 1	C1 STUDENT PROFESSIONALISM C6 FLC GOOD RELATIONS



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fig.(6.13) Exhibit of John Perry's SPACED FOCUSED Grid

fig.(6.14) Talkback Record Exhibit produced from John's Grid

PATTERN OF MEANING : LADDERING-UP ANALYSIS RECORD.

Enter significant ideas/thoughts generated for each element cluster considered.

Element Cluster	Record of Personal Feedback
E1, E2, E3, E4.	Authoritarian style of management clashes with a humanist approach.
E1, E2, E3, E4.	— " —

Enter significant ideas/thoughts generated for each construct cluster considered.

Construct Cluster	Record of Personal Feedback
C4, C5.	Underpinning manipulation is based on attacks on individual teachers.
C1, C6.	Bad relations in the school are a consequence of management attention.

Consider the total pattern of meaning for each element cluster in each construct cluster.

Element Construct Cluster	Record of Personal Feedback
E1, 2, 3 & C4, 5.	Manipulation is a feature of authoritarian management.
E1, 2, 3 & C1, 6.	This snapshot seems to express an "all-time low" in relationships between teachers & management.

Review focussed grid in light of the original purposes/aims intentionality.

Purposes and Aims	New Learning achieved upon reflection
Human relationships within the organization	Clash of cultures — mechanistic management style vs co-operative teamwork style of practice.

Learning Focus:

Observations of social interactions in the IT Workshop/PC '93'

Clients Name:

John Perry

Date: 20/07/94

The key evaluative finding from my talkback account was:

"Positive learning thru' social relationships, i.e. interaction between learners aided by peer-tutors as a 'learning-catalyst'. Whilst similar learning conversational benefits also accrued between 'staff-staff' dyadic interactions. Consequently, all these associations have led to personal skills benefits by all 'learners'."

Thus, both staff and students operating as System 7 learning nodes were observed to have benefited from identifiable systems-based learning conversations, along the lines of Kelly's sociality (or 'mutual learning between persons') corollary.

John Perry's social observation repertory grid conversation (see H3) led to him eliciting thirteen items of personal experience, leading to six personal constructs (see completed Spidergram and Triadgrams in section H3). From the raw grid produced, a SPACEd FOCUSed grid with four clusters emerged - see fig.(6.13). This was laddered-up to produce John's talkback account - see fig.(6.14).

A key evaluative finding from John's talkback account was his identification of 'human-relationship' staff problems within our college. John accounted for this as a:

" clash of cultures - 'macho' management style versus co-operative teamwork style of (FLC) practice "

John had witnessed a number of key learning events where college management had caused 'friction' with the staff team working in the FLC workshop. This he contrasted with the generally good working relationships between FLC staff and students.

6.3 Conversational evaluations from staff involved in the IT Workshop domain

This section has been divided into three separate parts:

1. Problems and difficulties experienced.
2. Evaluations using repertory grids.
3. Conversational interview accounts.

6.3.1 Problems and difficulties experienced

Problems of evaluating 'staff-learning' centred mainly around several key issues:

- All the other IT Workshop staff (at the time) were 'hourly-paid' part-time tutors, with intermittent attendance across the week with a tendency of 'not being around' during my free-periods from student contact.
- All these staff were officially paid to be in contact with the students, rather than for the purposes of my action research evaluation study.
- As I was the only full-time member of staff, my primary responsibility was in co-ordinating the IT Workshop centre, as well as developing the ITFM course strategy on-the-job.

These above circumstances militated against my being able to hold meaningful evaluative sessions with colleagues at work. Instead, they all agreed to see me 'out-of-hours', in order that I could hold my action research feedback conversations.

These sessions included reflection upon their own learning with respect to the IT Workshop development, centring around the conversational use of CSHL repertory grid procedures.

As a consequence of these difficulties and general 'complaints' of time-consuming evaluation exercises, I was inspired to develop the various conversational tools and learning aids employed, including the:

- Spidergram for eliciting and focusing personal experiences;
- Triadgram for conducting a Kelly triadic conversation;
- Talkback records for laddering-up and summarising grid clusters.

All designed for both 'ease' and 'independent' usage - see chapter 3.

6.3.2 Evaluations using repertory grids

As discussed earlier in the chapter, repertory grids were used by both myself and John Perry for different issues, but related back to the IT Workshop development. The repertory grids I obtained included feedback from the following IT tutors, including myself:

- Steve Coombs - 4 grids, 2 FOCUSed and 2 CHANGE grids;
- John Perry - also 4 grids, 2 FOCUSed and 2 CHANGE grids;
- Hilary Baker - Single FOCUSed grid;
- Sue Rawlings - Single FOCUSed grid;
- Peter Reed - Single FOCUSed grid.

All the above grids were conversationally laddered-up with talkback records, including a special adaptation for the CHANGE grid procedure - see exhibits in Appendix I : Staff Evaluations.

CERTAIN GRID STEVEI

SPACED FOCUSED GRID

CONSTRUCT POLE RATED

CONSTRUCT POLE RATED

	EE	EE	EE	EE	EE	EE	EE	EE	EE
101	0	0	0	0	0	0	0	0	0
220	0	0	0	0	0	0	0	0	0
330	0	0	0	0	0	0	0	0	0
440	0	0	0	0	0	0	0	0	0
550	0	0	0	0	0	0	0	0	0
660	0	0	0	0	0	0	0	0	0
770	0	0	0	0	0	0	0	0	0
880	0	0	0	0	0	0	0	0	0
990	0	0	0	0	0	0	0	0	0

DISCOVER TOOLS FOR ITUS C1
 TOOLS FOR TUTORIALS ETC C4
 ITUS TUTORIAL SYSTEM C2
 NEW PLANS/ALGAS FOR ITUS R05
 SUGGESTIONS APPLIED TO EYES R02
 PLC TOOLS FOR PL IN ITUS R06

ITUS CALL SUPPORT SYSTEM/TEAM
 ITUS SUPPORT CENTER ROLE
 ITUS HOW-TO PROBLEMS
 ITUS VENUE/SUPPORT PROBLEM
 STAFF PROBLEMS/LACK SUPPORT
 LACK OF HUMAN SUPPORT 1/5

COMPRHISE

THE MOVE TO THE ITUS

LIBERTARIAN CONFLICT

GENERAL LACK OF US SUPPORT

LACK OF SUPPORT STAFF

PROBLEMS WITHING ASSISTANTS

TEAM SHAKING

DEVELOPMENT OF PK

TOOLS AT CAL PL

TOOL FOR SEE & PERSONALITY

PLC PLAN SUCCESS

PLC TUTOR ALGORITHM

fig.(6.15) Exhibit of my first SPACED FOCUSED repertory grid 'SteveI'

Conversational Evaluations of my 'action-researcher' repertory grids - see appendix section I1

My first repertory grid exercise was carried out in 1992 on myself. My key evaluation purpose was to investigate my own learning experiences involved with setting-up the IT Workshop, in particular, the SOL/FL curriculum programmes. It took me some time to 'produce' this repertory grid as it was my initial experience of using this qualitative analysis technique. I elicited twelve items of personal experience and identified six bi-polar personal constructs using the Kelly triadic procedure. These personal constructs were then extrapolated to all the 'elements' I had identified, to produce a 'raw-entry' repertory grid - see exhibits in Appendix I1. Using the CSHL FOCUS and SPACED FOCUSed software procedures, the final SPACED FOCUSed repertory grid 'Steve1' was obtained, see fig.(6.15).

It was then necessary to 'ladder-up' my own personal meaning interpretations of this focused grid. In order to do this I produced my own 'laddering-up' talkback record, so that I could produce a summative account of any personal findings obtained at the time. Consequently, I produced three accounts relative to each of the three key clusters identified in fig.(6.15) -see exhibits in I1.

My key 'findings' in October 1992 were as follows:

1. The difficulties of setting-up an alternative staffing team to run the IT Workshop properly were identified as part of the college's 'conservative' attitude towards educational delivery in general.

2. That the IT Workshop required a joint staffing-team approach, integrating both administrative staff and tutors (on-the-job together) in contact with students.
3. That being able to differentiate between FL/SOL as a 'curriculum-process', compared with IT subjects as 'curriculum-content', led to the development of the UDT as a conversational authoring tool. This led to a standard systems-based approach to designing ITFM curriculum learning plans with a built-in PLC reflective process through the use of review-oriented log/accounts.

A similar exercise was repeated during December 1992. By then I had incorporated the additional use of support tools such as the Spidergram and Triadgram to help elicit/focus/record my elements and personal constructs in a more practical manner. This produced my second SPACE FOCUSed repertory grid 'Steve2', with two key clusters. These were 'laddered-up' and recorded on the 31/12/92 - see appendix I2 for all exhibits.

My key finding relative to my own learning experiences of developing 'the practice' in the IT Workshop was identified as:

The benefits experienced of putting into action the Systems 7 learning management plan. Tutors and students were observed to have made learning gains. The repertory grid process had proven to be an invaluable tool for my own reflection and convinced me of its use for the rest of the team. It would serve as an INSET team tool, enabling individuals to reflect on own and team practice relative to the IT Workshop development.

-CHANGE GRID-

CONSTRUCT POLE RATED - 1 -		ELEMENTS		CONSTRUCT POLE RATED - 3 -	
M	E	N	E	M	N
1 200 0	0	1	1	1 100 0	0 11 01 1
2 835 4	1	5	4	4 3 067 8	2 18 97 9

DL DELIVERY FAILURE	RCB	3 333 3	1	2 2 222 2	3 22 11 1

OPT FUTURE DEV'S FOR ITUS	NC7	3 333 3	1	3 1 111 1	1 11 11 1
LEFT POLENAME	C3	3 333 3	3	1 1 111 1	1 11 11 1
SUCCESSFUL TEAM	C5	3 333 3	3	1 1 111 1	1 11 11 1
RIGHT POLENAME	RC2	3 333 3	1	1 1 111 1	1 11 11 1
RIGHT POLENAME	RC1	3 333 3	1	1 1 111 1	1 11 11 1
B+D BEGS REALISED AS A TEAM	C4	3 333 3	1	1 1 111 1	1 11 11 1
PROG BACKED BY UNDERSTANDIN	RC4	3 333 3	3	1 1 111 1	1 11 11 1
LOTS OF PROG THRU SOL SKILL	NC10	3 272 2	1	1 1 111 1	1 11 11 1

INDI SUP BACKED BY TEAM	C7	2 222 1	2	1 1 111 1	1 11 11 1

PROF. CARING THRU' TEAM	NC11	1 111 1	1	3 3 333 1	1 11 11 3

MA F'Y PEER-TUTOR SUPPORT					
LEO'S PROG & INC CONF/RES					
SUCCESS OF ITHM COURSE					
Y'S ABILITY TO 10 REL PRO					
DEDICATION OF TEAM INSET					
JONS STAND-UP FOR PRINCIPAL					
SEEN SUPPORT FROM ITUS TEAM					
LET OF SUPP FROM S CLARK'N					
UNIQUE CONT'S FR LIT AD STB					
PETER FEELING LIKE A TEAM M					
BETTER MOTHER FEEL'S					
MUS JOB CHANGE UT' TEAM					
RECEIVED SUPPORT					
NON-APP OF CSD CANDIDATES					

MILARY'S STIVE-UP TEACHING					
IT MEETING FRBNDE DEVELOPE					
REPORT ON IT MVA CENTRE					
PROPOSAL BLOCK					
FTER FUD AFTER OTHER BAGGED					
NOT AWARE OF TEAM BEGS					

fig.(6.16) Exhibit of CHANGE grid 'Steve4'

fig.(6.17) CHANGE grid Talkback Record for 'Steve4'

CHANGE-GRID TALKBACK RECORD

Where do the new elements occur in the FOCUSED CHANGE grid?

New Elements	Region/Cluster/Area ... Grid Description/Rationale
16, 17, 18, 19	At the edges of a large cluster on R.H.S. of grid about pole 1.
20	Within a cluster on L.H.S. of grid about pole/rating 3.

What new thoughts, ideas, suggestions does this raise?

New Elements	Record of Personal Feedback
16, 17, 18, 19	Nearly all the new elements attributed to the large cluster providing new evidence towards team & student progress in team development.
20	Extra piece of evidence towards external/unhelpful processes.

Where do the new constructs occur in the FOCUSED CHANGE grid?

New Construct	Region/Cluster/Area ... Grid Description/Rationale
9, 10	Appears in both clusters supporting the two key dimensions of evidence towards overall development.
11	Stand-in-sub team, but supports the team development construct.

What new thoughts, ideas, suggestions does this raise?

New Construct	Record of Personal Feedback
9, 10	These constructs support the positive development of support & developing to their own team development, only require contribution on their aspects of positive development through developing a pro/trace team approach.
11	

Which Element-Construct ratings have changed? Enter your significant ideas/thoughts generated, accounting for these changes.

E-C Rating Change			Record of Personal Feedback
E-C	From:	To:	
E6710 - C5	1 1 1	2 2 2	Team - enough participants CL/EZ divide
E6710 - C7	2 2 2	3 3 3	Personal description of evidence req. vital support to team
E2 - C3	3	1	Changed mind - I had thought it was successful students.
E6 - C2 → RC2	1	3 → 1	Substantive necessary to be in team but team had core study skills & resources.

Consider the total pattern of 'change' observed and enter your attributed meaning.

Cluster/Area/Theme Explored	Record of Personal Causality
E16, 17, 18, 19 - C9, 10 + C11	Success of team work is only achieved through team support and successful feedback by edge-level student members, despite initial structure from ...
E20 - C9, 10	Key knowledge structure must include human change - persistent ... external pressures.

Learning Focus/Grid Ref: Learning Dept. rel. to this team etc. / CHANGE - R. STEVE4. C.M.

Clients Name: Steve Lamb

Date: 21 / 02 / 02

Page: 1

Because I had involved myself in an on-going personal development using several up-dated grids, it was suggested by my CSHL tutor that I should consider using the CSHL CHANGE grid procedure. This would allow me to compare several grids over a period of time in the context of changing/additional elements and personal constructs over the same period. This led to my production of an entirely new repertory grid during early 1993, which led to my talkback record in March 1993 - see 'Steve3' and laddering-up analysis record 4/3/93. This was then added to later in the month, I then produced my CHANGE grid 'Steve4' - see fig.(6.16). This also led to my development of a CHANGE grid talkback record during March 1993. Consequently, I used this to record my personal 'findings' from my fourth CHANGE grid - see fig.(6.17).

My key findings over this period were:

- On-the-job learning has been enhanced through common team co-operation and mutual practices, leading to increased learning benefits by diverse learner targets in the IT Workshop, i.e. adults and school-leavers. This is evident in increased completion rates, more C+G IT Certificates being awarded and successful job opportunities gained by some of our IT case-load students.
- Success of the IT Workshop in the future is only assured through its team support and successful feedback by case-load student members, despite the radical departure from established 'norms'.
- Backlash by others against the IT Workshop is due to human change-management problems across the institution forced by the dual creative tensions of my development in parallel to external pressures, i.e. college incorporation and amalgamation issues.

Conversational evaluations from John Perry - see Appendix I2

The only other member of my team that was able to contribute as many grids as myself was my colleague John Perry. Although John was part-time in the IT Workshop up to September 1993 (when he successfully became full time) he contributed more teaching hours than anyone else, i.e. twelve contact hours over two days. He also took my place and 'held the fort' as surrogate IT Workshop manager during my absences from the venue.

John's first grid was fed back to me in October 1992 - see 'John1'. John had identified seven personal learning experiences as 'elements', leading to his elicitation of seven personal constructs. The focused grid clearly produced two key clusters for John's personal analysis. On laddering-up these clusters during a talkback conversation with myself on the 20/10/92, John recorded the following findings:

1. The process (on the job action researcher rôle) may be valuable in the context of 'teacher as researcher' (Stenhouse).
2. Value/support of team in IT Workshop.
3. Support of Cert. Ed. 'team'.
4. Weakness of the individual (by comparison to a team approach) leads to a lack of progress.

John's second grid 'John2', was produced and laddered-up on 10/11/92 (see exhibits in I2) giving the following feedback:

1. John felt that the repertory grid process is a relevant tool for conversation, better than the more 'directed' questionnaire approach.

SPACED FOCUSED GRID

CONSTRUCT POLE RATED - 1 -		ELEMENTS		CONSTRUCT POLE RATED - 2 -	
E	EE	E	EE	E	EE
0	0	0	0	0	0
1	9	5	2	3	3
2	1	5	55	3	3
3	1	5	55	3	3
4	3	5	55	3	3
5	3	5	55	3	3
6	3	5	55	3	3
7	3	5	55	3	3
8	3	5	55	3	3
9	3	5	55	3	3
10	3	5	55	3	3
11	3	5	55	3	3
12	3	5	55	3	3
13	3	5	55	3	3
14	3	5	55	3	3
15	3	5	55	3	3
16	3	5	55	3	3
17	3	5	55	3	3
18	3	5	55	3	3
19	3	5	55	3	3
20	3	5	55	3	3
21	3	5	55	3	3
22	3	5	55	3	3
23	3	5	55	3	3
24	3	5	55	3	3
25	3	5	55	3	3
26	3	5	55	3	3
27	3	5	55	3	3
28	3	5	55	3	3
29	3	5	55	3	3
30	3	5	55	3	3
31	3	5	55	3	3
32	3	5	55	3	3
33	3	5	55	3	3
34	3	5	55	3	3
35	3	5	55	3	3
36	3	5	55	3	3
37	3	5	55	3	3
38	3	5	55	3	3
39	3	5	55	3	3
40	3	5	55	3	3
41	3	5	55	3	3
42	3	5	55	3	3
43	3	5	55	3	3
44	3	5	55	3	3
45	3	5	55	3	3
46	3	5	55	3	3
47	3	5	55	3	3
48	3	5	55	3	3
49	3	5	55	3	3
50	3	5	55	3	3
51	3	5	55	3	3
52	3	5	55	3	3
53	3	5	55	3	3
54	3	5	55	3	3
55	3	5	55	3	3
56	3	5	55	3	3
57	3	5	55	3	3
58	3	5	55	3	3
59	3	5	55	3	3
60	3	5	55	3	3
61	3	5	55	3	3
62	3	5	55	3	3
63	3	5	55	3	3
64	3	5	55	3	3
65	3	5	55	3	3
66	3	5	55	3	3
67	3	5	55	3	3
68	3	5	55	3	3
69	3	5	55	3	3
70	3	5	55	3	3
71	3	5	55	3	3
72	3	5	55	3	3
73	3	5	55	3	3
74	3	5	55	3	3
75	3	5	55	3	3
76	3	5	55	3	3
77	3	5	55	3	3
78	3	5	55	3	3
79	3	5	55	3	3
80	3	5	55	3	3
81	3	5	55	3	3
82	3	5	55	3	3
83	3	5	55	3	3
84	3	5	55	3	3
85	3	5	55	3	3
86	3	5	55	3	3
87	3	5	55	3	3
88	3	5	55	3	3
89	3	5	55	3	3
90	3	5	55	3	3
91	3	5	55	3	3
92	3	5	55	3	3
93	3	5	55	3	3
94	3	5	55	3	3
95	3	5	55	3	3
96	3	5	55	3	3
97	3	5	55	3	3
98	3	5	55	3	3
99	3	5	55	3	3
100	3	5	55	3	3

fig.(6.18) Exhibit of John's grid 'John3'

-CHANGE GRID-

CONSTRUCT POLE RATED - 1 -

CONSTRUCT POLE RATED - 3 -

CONSTRUCT POLE RATED - 1 -		CONSTRUCT POLE RATED - 3 -	
ELMENTS	W	E	N
TRAINING SUPPORT	2	2	2
ATTACKS ON FL	2	2	2
EXTERIOR LACK OF SUORT	2	2	2
SLOPPINESS	3	3	3
DESPAIR	3	3	3
THREATS TO FL	3	3	3
GROUP PROBLEMS AGENCY	2	2	2
INSTITUTIONAL FAILURE	2	2	2
PLANNING	3	3	3
OLD SITUATION	2	2	2
FAILURE	3	3	3
STUDENT SUPPORT	2	2	2
LACK OF SUPPORT FOR FL	3	3	3
INTERIOR LACK OF SUPPORT	3	3	3
PROFESSIONALISM	2	2	2
SUCCESS	1	1	1
BENEFITS OF FL	2	2	2
INDIVIDUAL SUCCESS	2	2	2
INDIVIDUAL SUCCESS	2	2	2
RESULTS	2	2	2
NEW POLICIES	1	1	1
SUCCESS	1	1	1

ELMENTS	N	EE	E	N
STUDENT SUPPORT	1	22	2	3
LACK OF SUPPORT FOR FL	1	10	2	3
INTERIOR LACK OF SUPPORT	1	11	3	3
PROFESSIONALISM	2	11	3	2
SUCCESS	1	11	3	1
BENEFITS OF FL	2	11	3	2
INDIVIDUAL SUCCESS	2	11	3	2
INDIVIDUAL SUCCESS	2	11	3	2
RESULTS	2	22	2	2
NEW POLICIES	2	22	2	1
SUCCESS	1	11	3	1

ELMENTS	N	EE	E	N
ADULT STUDENT LEFT AFTER 1M	0	0	0	0
FL GROUP WORRY RE TIER 4 AP	0	0	0	0
MEANNESS SM INCLUSIVE MB	0	0	0	0
OH FRINGE EVBIT	0	0	0	0
ED SPLIT RE	0	0	0	0
SKILLING AT OLC AFTER SS	0	0	0	0
LEARN V B OF ADMIN AD ED	0	0	0	0
FL VS FASHION WORRY	0	0	0	0
INCONSISTENT MORE	0	0	0	0
PRINC APPOINTS	0	0	0	0
LACK OF KNOWLEDGE CONCERN	0	0	0	0
SOCIAL MEETING AT SC MOVE	0	0	0	0
COCKIN ORGANISATION ES	0	0	0	0
SPORTIN WAS IMPROVED	0	0	0	0
CHANGES COURSE FOR NEED	0	0	0	0

fig.(6.19) Exhibit of CHANGE grid 'JOHN4'

SPACED FOCUSED GRID

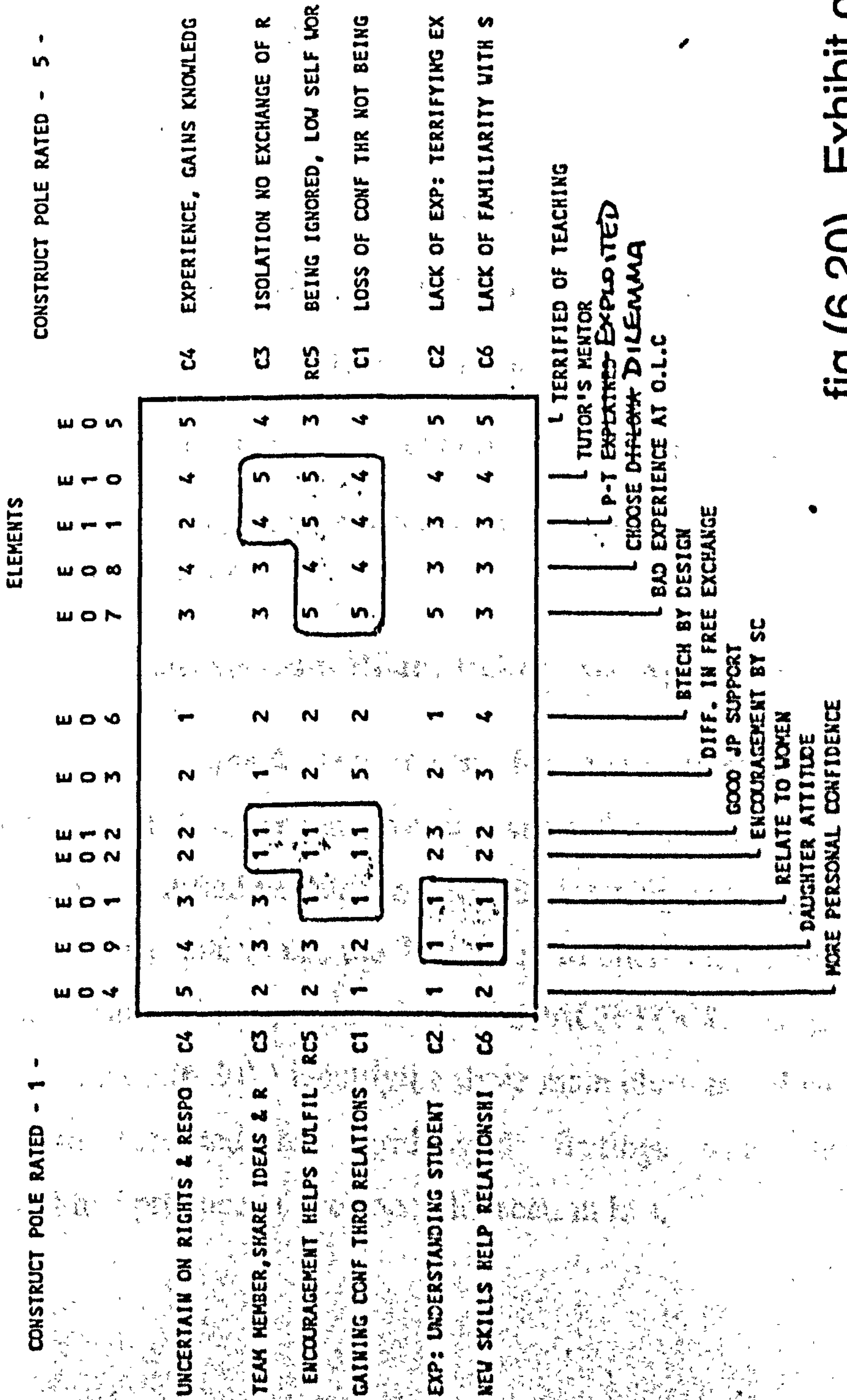


fig.(6.20) Exhibit of Hilary's grid 'BAKER_SC'

2. Value of team approach identified relative to the starting up of the new BTEC First Diploma in IT course. This was seen in the context of team learning benefits accrued from the 'pooling' of ideas and practice.
3. John identified the vulnerability of the individual teacher operating alone, i.e. not working within a team.

John also conducted a third SPACE FOCUSed repertory grid with a fourth CHANGE grid (see fig.(6.18) and fig.(6.19)). John's key findings relative to these grid conversations were as follows:

1. At the time (23/5/94) it seemed that curriculum change was being driven from below, with no direction/support from above (senior managers).
2. FL identified as 'here to stay' (in some form).
3. FL no longer dependent totally on senior management 'whims'.
4. Increase in own personal knowledge (IT) and team support.
5. Increased dependence on OL team support (staff & students).
6. Some concerns over the future existence of FL. Seen as supported partly for financial reasons.

Conversational evaluations from Hilary Baker - see Appendix I3

Hilary's repertory grid feedback exercise was also conducted as part of her on-the-job Cert. Ed. reflective journal - see references made in section 6.2.4. She identified twelve key personal learning experiences and was independently able to use the Triadgram to elicit six personal constructs (see exhibits in appendix I3). A SPACE FOCUSed grid was produced (see fig.(6.20)) identifying three main clusters. Hilary ladderred-up and recorded her 'grid-based' findings using the documentation I had produced (see appendix section I3).

SPACED FOCUSED GRID

CONSTRUCT POLE RATED - 1 -		ELEMENTS										CONSTRUCT POLE RATED - 5 -		
		E	E	E	E	E	E	E	E	E	E			
LEARNING FROM OWN EXPERIENCE	C4 * 1	1	1	2	1	1	1	1	1	1	3	1	5	
FOCUSING ON STUDENTS NEEDS	C2 * 1	1	3	3	3	5	5	3	3	1	1	3	5	
INDIVIDUAL RESPONSIBILITY	C6 * 2	3	2	1	1	5	5	3	3	2	4	4	3	
BARRIERS TO STUDENT LEARN'G	C3 * 3	1	1	2	1	3	4	3	3	5	5	4	3	
STUDENTS WEAKNESSES	RC7 * 1	1	1	3	3	3	3	4	5	3	4	3	3	
INC KNOWLEDGE OF STUDENTS	RC1 * 5	2	1	3	3	3	3	3	1	1	1	2	3	
LEARNING ABOUT PEOPLE	RC8 * 5	1	1	1	4	4	2	2	1	1	1	5	5	
CAPABILITIES OWNED BY ME	C5 * 5	3	3	3	3	3	4	1	3	3	4	5	5	
LEARN'G FROM OTHERS EXPER'E	C4											5	5	
FOCUSING ON OWN NEEDS	C2											1	3	
TEAM RESPONSIBILITY	C6											2	3	
ENABLEMENT OF STUD LEARN'G	C3											5	3	
STUDENTS STRENGTHS	RC7											3	5	
INCREASING KNOWLEDGE OF SUB	RC1											3	5	
LEARNING ABOUT PROCEDURES	RC8											2	5	
CAPABILITIES SOUGHT BY ME	C5											1	5	

		*	*	*	*	*	*	*	*	*	*	*	*	*STUDENTS SAID I'M PATIENT
		*	*	*	*	*	*	*	*	*	*	*	*	*LEARNING WITH STUDENTS
		*	*	*	*	*	*	*	*	*	*	*	*	*DISCOVER REFC/BISTRO LOC'N
		*	*	*	*	*	*	*	*	*	*	*	*	*BOOKING PROCEDURE HELEN
		*	*	*	*	*	*	*	*	*	*	*	*	*SC EXPLAINS TUTORIAL DOC'S
		*	*	*	*	*	*	*	*	*	*	*	*	*TUTORIALS STUD'T NEEDS LINK
		*	*	*	*	*	*	*	*	*	*	*	*	*STUDENTS PERSONAL QUESTIONS
		*	*	*	*	*	*	*	*	*	*	*	*	*C6 LEV 1 MP W/O FORMAL TR
		*	*	*	*	*	*	*	*	*	*	*	*	*STIPPLAN RECALL EXPERIENCE
		*	*	*	*	*	*	*	*	*	*	*	*	*TEAM TEACH VAL LEAR'G EXPER
		*	*	*	*	*	*	*	*	*	*	*	*	*EMPTY KETTLE SYNDROME
		*	*	*	*	*	*	*	*	*	*	*	*	*COLLEGE LACKS RESOURCES
		*	*	*	*	*	*	*	*	*	*	*	*	*ITMS TEAM DISLIKE OF DB3*
		*	*	*	*	*	*	*	*	*	*	*	*	*STUD DIFF'S DONT READ INSTR
		*	*	*	*	*	*	*	*	*	*	*	*	*STUD LTD LEAR'G W/O EXPT
		*	*	*	*	*	*	*	*	*	*	*	*	*EXCEL MANUAL DISCOVERY

fig.(6.21) Exhibit of Sue's grid 'SUE1'

Hilary's personal feedback included the following:

1. The need to work with people - I do not perform well in isolation.
2. Despite an affinity to women returners, I feel men have similar needs.
3. Was not aware of daughter's attitude until reflection.
4. Realise I have changed. More confidence and self-esteem (not just in the work context) has changed my life.
5. Doubts about dealing with problems, regarding whether I had confidence to do things. These past experiences overcome by positive contemporary experiences.
6. Consequently, I have overcome the crisis of being a woman returner. Tutors allotted to women returners should be aware of these needs.

Conversational evaluations from Sue Rawlings - see Appendix I4

Sue also conducted a SPACED FOCUSed repertory grid conversation. She initially made use of the Spidergram and Triadgram to identify her elements and personal constructs in the usual way, leading to her SPACED FOCUSed repertory grid (see fig.(6.21)). This grid had six main clusters, from which Sue was able to talkback and record the following findings:

1. One of the most important factors in supporting learners is to build a relationship with them, making them feel they are part of the team and/or partnership which is working together to increase their knowledge/potential.
2. Opportunities for experience, experimenting and reflecting are more important to future development than merely gathering facts.
3. Working and learning as part of a team is effective, providing that the team offers mutual support.

IT Workshop : Staff Evaluations



IT Workshop - Staff Team Feedback : Recorded Interviews

The following questions were put to colleagues as a means of providing a semi-structured focus towards an open-interview. The qualitative conversational accounts given are recorded on cassette-tape and transcribed onto a written Summative Account record, constituting as part of the social learning findings from IT workshop-based 'Systems 7' personnel.

Q1: Introduction:- "Could you tell me your name and what job you're involved in at the college?"

Q2: Involvement with IT workshop:- "Could you tell me about your job of work in the IT workshop development - duties, learners, timetable, how you do your teaching, relationships with staff and students etc."

Q3: FL development:- "Tell me how you think FL has developed in the college over the period 1990 to 1994 and what you think has influenced it."

Q4: IT development:- "Could you tell me how the delivery of IT has changed over the same period and how you regard the development programme?"

Q5: FLC versus IT workshop:- "How do you regard the recent changes from the old IT workshop development to its present function in the Trenarren FLC?"

Q6: Action Research Contributions:- "Could you tell me if you think the IT workshop development had any particular lasting impact in the delivery of IT and FL in the college?"

Q7: Future development of IT and FL:- "How do you think IT and FL in general could be best improved i.e. what 'vision' do you have with regards to future practice in the IT/FL field?"

Q8: Any other comments:- "Have you any other comments you'd like to make in general?"

"Thank you for all your help and contributions made in this evaluation study."

4. Learning is a shared responsibility. When any one of the parties involved does not fulfil their responsibility it causes an unnecessary burden for the others, with possible breakdown of the process.

Conversational evaluations from Peter Reed - see Appendix I5

Peter also conducted the SPACED FOCUSed repertory grid conversation, identifying sixteen elements and eight personal constructs, producing grid 'Peter1' (see fig.(6.22)). This led to four main clusters being identified and conversationally ladderred-up.

Peter's main findings included:

1. College management not working as a team.
2. A committed team is aware of both the student's and course requirement needs. It (the team) must plan accordingly and follow it through.
3. Individual learning is more important than administration or (conventional) teaching.
4. The team culture needs to be nurtured. The (College) Management are not (seemingly) aware of this concept.

6.3.3 Accounts of Learning Conversations

As part of the triangulation policy of evaluating separately sourced 'in-field' learning in the IT Workshop, I decided to conduct a series of semi-structured interviews with staff concerned. These were all conducted in May 1994, and operated upon the basis of an informal interview. The interviews were conducted separately with each individual member of staff using the eight key questions listed in fig.(6.23).

These questions were designed to focus the direction of the interview relative to my own inquiry. However, respondents were encouraged to digress as they pleased - hence, the semi-structured and informal nature of the event. Each interview was recorded on cassette tape and listened to by myself after the event. From these listening sessions, I made rough transcripts of the conversations heard, summarising any key points made on the summative accounts enclosed in appendix section I6. Important quotations made, however, will be disclosed in the main body text of findings in this section.

Feedback from Hilary Baker : 18th. May, 1994:

Hilary is a part-time tutor who has worked in both the old IT Workshop, as well as the Trenarren FLC. Hilary views her IT involvement as being a support IT tutor, helping mainly 'on the floor' and giving individual tutorials to students. In response to her involvement with FL development, Hilary feels the old set-up operated better as a team, due mainly to better staffing-support ratios. Consequently, she felt more 'isolated' in the current FL development. Hilary felt that IT development should be done as part of a team effort:

" ..we cannot know everything, as IT changes too quickly - team-based knowledge is much better"

Comparing the FLC to the old IT Workshop, Hilary thinks:

"A lot more people are achieving more work now - due to increased size and accessibility of the new FLC at Trenarren."

However, Hilary points to a lack of student support in the FLC, in particular for:

" targeted support for ones that have been away from learning for a long time."

Hilary was annoyed that there was now a lack of staff to support both 'floor-based' and 'tutorial-systems' in parallel throughout the week. In terms of action research contributions Hilary feels:

"I don't think we'd be here now today - as we are - if it hadn't been for the IT Workshop. The managers have had a great 'awakening' - one wonders if they truly know what FL is - as we know it. Full and half day blocks for both full time and part time teachers provided the 'medium' for developing team-based relationships. ..Well it gave me all the support I needed as a new teacher - I don't think I'd actually be a teacher today if I hadn't had that support - the support of the team really pulled me through, and helped me achieve my Cert. Ed. as well!"

Hilary also commented on the positive nature of social interaction between 'peer-tutors' and all other students attending both IT Workshop and FLC venues. She felt that *student learning opportunities* needed to match the '*personal time-scales*' of part time adult access students.

Feedback from John Perry : 20th. May, 1994:

As already discussed earlier in the chapter, John is the full time FL tutor, operating across all three FLCs in the college. Formerly, John worked with me as a part-time IT tutor since the origins of the old IT Workshop. John sees his main involvement as delivering C+G 7261 ITFMs, combined with general IT support to staff and students alike. John completed his Cert. Ed. as 'background-experience', and is now

progressing onto the 'college-franchised' M.Ed. John feels that his Trenarren FLC duties are similar to his experiences from the old IT Workshop, but feels 'exposed' in the other two FLCs - due to a lack of staffing support in those venues. John said " I prefer the team approach as it is a more 'professional' way to teach IT."

John felt he had been " in the wake of FL developments" by myself and Mick ever since he came to the college. He felt we were:

" breaking new ground all of the time. ..FL is now taken 'on-board' by the college management as a valid form of learning".

But John is suspicious of the management's financial motives underpinning their FL development model. Whilst acknowledging that all FLCs around the college were now better resourced, (c.f. 1990) John felt that a common approach had not been successful, extolling the college-wide adoption of the FL/SOL model developed in the IT Workshop:

" I think our model should be followed by the other centres - I believe it's secretly recognised as being a good one".

Comparing the FLC to the original IT Workshop John stated:

"I can see quite a lot in common compared to our current set-up. Steve's rôle has dramatically changed from managing a workshop to just teaching in it. The present manager finds her rôle difficult."

In terms of action research contributions John fed back:

"I think the results of your research have had a tremendous input into both the old IT Workshop and the current FLC - and for some strange reason this has not been recognised. ..We've offered students quite a lot of freedom - and very few abuse it."

John cited that trust in the student creates fewer discipline problems. Completing his interview, John made the final comment:

" I never knew teaching could be like this - with support from the team in the centre."

Feedback from David Cockin : 20th. May, 1994:

David is a 'long-standing' adult student of mine who is currently on teaching practice with me in the Trenarren FLC for two afternoons a week. David also teaches as an IT tutor to adults in the OLC at West Hill. Describing his involvement with the IT Workshop David says:

"At Trenarren, I'm both a student and a teacher and I see the job from both sides. As a tutor you do get 'bogged-down' with one student, with not enough time for the rest. ..Compared with Trenarren (referring to the OLC), you rarely see anyone else down at W. Hill - you're there on your own. ..at Trenarren there is always Beccy, Steve, John or Graham - one of Steve's full time students - for help. You do need help. The diversity of IT needs more than one person for support."

In terms of FL development in the college, Dave told the following:

"The most important FL development is its natural link to IT - which is thanks to your work. My biggest 'bug-bear' against recent FL developments is the number of 'block-bookings' into the open-access IT area (of Trenarren FLC)"

In terms of Dave's perspective of IT development:

"I started off looking at SEN IT packages for my daughter - with Steve back at W. Hill (in the 'mid-to-late' 1980's). Adults have a fear of computers compared to young people, so it's good to mix both groups. Adults influence on young people is to 'stabilise' the environment. Where learners helping each other - is a valuable part of it."

Dave concluded the interview with this final comment:

"If it wasn't for your efforts Steve - this centre wouldn't be what it is today. To have this variety of study -all in one area - is remarkable!"

Feedback from Beccy Bennet : 18th. May, 1994:

Beccy has been the FLC manager at Trenarren since September 1993. Beccy's post is on an administrative grade rather than a teaching scale and has caused her some anxiety and confusion:

"My timetable is somewhat different from the other teaching staff - (they) have a different contract. I come in from 8.45am to 5pm. I work as part of a team - really - between yourself, John and the other part-time lecturers. I do a lot of support teaching, for which I'm unpaid. I'm in contact with all the students coming in all the time - working closely with the other staff in the centre."

Beccy's perspective on FL is related back to her 'student-days', when she attended the Sedgemoor site of Mid Cornwall College:

"My upbringing in the college was formal delivery at Sedgemoor. I had three one hour IT sessions per week, in which very little was actually learnt. The C+G ITFM approach would have been more 'realistic' - with people working at their own rate. (With FL) people actually learn how to achieve the end-result - to learn how to get there is far better than just being able to produce the end-result."

In terms of action research contributions to the 'setting-up' of the Trenarren FLC, Beccy divulged the following:

"Extremely worthwhile - look at the certificates awarded over this year - it speaks for itself - in the 100's rather than just 10's, which is great. So I mean, we are getting people through their courses. Students are very motivated, work at their own level - they are achieving - the results speak for themselves. So obviously a successful way of delivering a course. I think it also builds their confidence if they haven't got to meet deadlines, if they can work at their own pace.

..there has been good interaction between staff and students, and peer-tutors."

In terms of future developments to the centre, Beccy felt that it:

"Needs more money, resources, machines, user-friendly software. We could easily double or treble the amount of machines (work-spaces). I think it could be developed into a much better centre - not just in the IT field - but to make it a proper FLC. So people can come in and get the proper support and learning they need, i.e. maths and English could be 'flexibilised'."

Beccy's general comments were directed at the college management:

"It's very easy for them to criticise - they have it both ways. They use us as a 'dumping-ground'. Basically - they cut a lot of the IT hours - there's no official teaching for IT throughout the courses anymore. It's an easy option for them (external tutors and managers) to make. There should be extra teaching hours, admin. hours, reception hours etc."

Feedback from Mick Underwood : 19th. May, 1994:

Mick is a full-time 'L2' communications lecturer. He is also my internal nominated supervisor for my CSHL action research based in the college. Mick (at some length) pointed out the disparity between his job description (which allegedly involves FL development) and his 'actuality', which is a conventional delivery timetable of communications subject-based activity.

Mick describes the FL development from 1990 to 1993 as 'consistent', identifying my development of an " IT team of practitioners ", which went " very far along the route of developing the practical parameters which an IT Workshop needs to operate from within - a coherent method of delivery."

Mick felt it had developed because Mike Reed (as FL coordinator in MCC) had chosen enthusiastic practitioners to develop the core workshops strategy. Since September 1993, Mick felt that senior college management had 'hi-jacked' the FL development for their own purposes.

Mick criticised the FLC as being outside of the general student culture:

"More students have been served in the FLC. However, main bulk of students remain 'disadvantaged' due to not having an FL culture from which to operate within."

Thus, they cannot transfer their CL experiences to the FLCs due to this disability. Mick points out:

" ..they (students) don't avail themselves to using it."

Mick disapproved of the move towards 'block-bookings' in the FLC because:

" ..it's against the 'FL-ethos' of open-access workshops."

Mick felt that the action research had encouraged the mixing of adults with school-leavers for common IT course opportunities. He seemed surprised that the booking and tutorial system was still:

" ..tolerated, despite unsympathetic managers who 'manage' and take decisions remote from the practitioners as a means of the new hierarchical controls that have been established."

This he linked to his own, plus everyone else's drop in staff morale this year. Mick's haunting final comment to me was:

"Somebody, somewhere, needs to do something to repair my motivation."

Feedback from Janet Sarah : 18th. May, 1994:

Janet is a part-time member of the IT Workshop team. She is responsible for running the 'specific-IT' programming modules, as part of the ITFM NVQ programme. She teaches both FL 'programming' courses, as well as traditional 'CL' BTEC courses.

Janet runs the C+G 7261 programming modules for BASIC and (more recently) 'C', to a 'mixed-bag' of full-time and part-time students of age 16 - 40 years across levels 1 to 3. She is very busy due to the intensive nature of her contact time, thus not having sufficient time to give proper tutorials or make full relationships with other staff. Janet infinitely prefers her FL tutoring rôle compared to her traditional teaching for many reasons, but she cites the improved motivation and attitude of her FL students as the key factor.

In terms of IT developments, Janet has developed her modules from level 1 to level 3 within a two year period. Janet sees improvements as both "better resources" and "better team relationships". Janet sees the GNVQ IT core development programme in college as "fraught with difficulties."

Comparing the FLC with the old IT Workshop, Janet felt the FLC needed expansion, as this issue was linked to increased adult participation.

She sees the FLC venue as 'noisy', due to its more open nature, and wants to see the return of the 'ad-hoc' seminar room for group discussions etc., away from the open-access areas. Janet also thinks that training room annexes off the FLC could be used as a venue to cope with the 'block-bookings' problem.

In terms of action research contributions, Janet discussed the issue of the 'divide' between the IT/FL group versus the computing science faction within the college. She felt that:

" ..people wouldn't get so heated about issues if something hadn't occurred"

Implying that the radical and successful methods of the FL/IT team had worried the 'traditionalists' in the computing science section, who felt 'threatened' by the development. Janet felt that the College decision to deliver the future GNVQ IT core teaching programme in the FLCs came from the development of IT/FL methodologies learnt during the IT Workshop days. She perceives the key problem we face, however, is the lack of personal skills and motivation of our college students.

In terms of future development Janet felt that we:

"Need to continue with the 'mix' of people established, plus widen the modular choices available."

Janet felt we ought to run more 'ITFM-style' courses rather than 'CL-type' BTEC full-time ones, which she perceives as 'de-motivating' the students. Janet wanted to see improved facilities in the FLC to encompass a wider range of teaching styles and opportunities.

Janet would like to see more simulated work-based scenarios, as a 'relevant' means of developing core skills, in conjunction with 'sympathetic' staff. Janet also felt that a 'coffee-shop' environment was needed for informal staff-student learning relationships to develop.

Overall, Janet said she enjoyed FL, citing her personal evidence of increased work performances by both staff and students, plus better attendance records. She felt that the ITFM NVQs were successfully achieved through 'student choice' rather than because they were offered as some 'constricted' option. Janet also recognised the difficult process of trying to develop IT and FL, which had been held back largely through:

" professional jealousy and institutionalised social prejudice."

Feedback from Sue Rawlings : 23rd. May, 1994:

Sue is a part-time IT tutor, teaching wordprocessing, typing and various other IT-based courses around the college. She also tutors the business technology unit, as part of the BTEC First Diploma, which is a full-time IT course based in the Trenarren FLC. Sue's involvement with the IT Workshop was identified by herself as being a general IT support tutor, giving individual tutorials and negotiating student needs. Sue felt that she had worked closely with other staff and learners in the 'venue', identifying the IT Workshop as more a 'club-environment', rather than as a 'classroom'.

In terms of FL development, Sue felt that we had:

"Started-off on the right track, but the 'policy' was subverted by management identifying FL as a cheap alternative (compared with normal teaching costs) - leading to a lack of 'support-systems' for increasing student numbers."

Sue felt that the most important IT development was the introduction of the C+G/ITFM programme. She felt that the link made between IT and FL delivery had been 'highly beneficial'. Sue was, however, disappointed with the lack of software updating across the college and felt that incompatible facilities disadvantaged students.

Comparing the new FLC to the old IT Workshop, Sue felt that:

" ..the FLC still uses the same basic structures of the old IT Workshop - i.e. tutorial-based FL support system. However, whilst the IT Workshop had 'ideal' staffing ratios, the new FLC is badly understaffed - not allowing the 'double-staffing' requirement which is essential for tutorial and 'floor-support'."

In terms of action research contributions, Sue felt that:

"If it hadn't run at all (referring to the old IT Workshop), then St. Austell College wouldn't have any FL at the moment, because the IT Workshop last year laid the groundwork. ..Negated, somewhat, by new management style in the college - with top-down decisions, lack of consultancy etc. ..The tutoring process from the IT Workshop is to become the 'model' for adult education next year."

Other ideas by Sue included her 'vision' of how the core-skills induction process ought to be managed:

"The core-skills process should adopt a 'screening-in' policy to reduce stigma (as Sue perceives it relative to the student's perception of the process involved) - extra help should be seen as a right, not as an insult."

6.4 'Time-Line' evaluations of the action research

Time-line accounts were recorded and summarised in tabular form in fig.(6.3). It is now intended to 'ladder-up' these accounts using a specially developed time-line talkback record. The aim of this record was to summarise key thoughts and ideas that I had discursively analysed during talkback of the key action research events. These events are looked at within each of the identified action research domains, before being cross-analysed across any two parallel domains. These identified events are 'flagged' both between and across the original time-line records made.

For the purpose of my own action research, I decided to carry out two separate talkback evaluations of key project developments, between:

1. My personal action researcher 'learning-events' and key ITFM 'developmental-events'.
2. My personal action researcher 'learning-events' and key change-management (college-based) 're-organisation-events'

I therefore wanted to inquire into the relationships between my own learning as action researcher and specific college developments that have influenced the nature of my action research in the IT Workshop.

fig.(6. 24) Time-Line Talkback Record investigating relationships between personal learning and TFM development

Time-Line[®] Talkback Record



Action Research Domain 1 Account

Personal - 'action researcher' development

Interpretation of event-time relationships between events in domain 1 account

Event Range	Laddered-up thoughts, Ideas and personal suggestions
May '90 - June '91	These events relate the initial activities I was involved in with regards to setting-up the IT workshop relative to SOL practices esp. systems?
Oct '91 - Feb '92	Events looked at team-based relationships w/ developing the human Resource Interface aspect of the IT workshop.
May '92 - Nov '92	Events looked at individual improvement/development of individual parts, the dev. of reports and other 'reflective' tools/processes.
Dec '92 - Feb '94	Events relate to my own development & evaluation tools and processes to support my Ph.D. esp. Tutoring, runtime, factories, new means. SOL etc.

Action Research Domain 2 Account

ITFM - Learning Plans development

Interpretation of event-time relationships between events in domain 2 account

Event Range	Laddered-up thoughts, Ideas and personal suggestions
Jun '91 - May '91	Discovering and identifying the underlying SOL-ITC processes that underpin the educational ambience/process of ITFM Learning Plans - esp. UOT.
Oct '91 - Sep. '92	Security 401 process 'unpacked' to look at different areas of IT and non-IT capabilities areas, using Cert. Ed. as a 'test-bed' for experiments.
Oct '92 - Nov. '93	'Fine-tuning' and 'on-going' development of ITFMs, offered now as both 'stand-alone' programmes for IT students - combined for FT PLI course - alternative to the BTGC FORT programme

Interpretation of event-time relationships across parallel domains 1 & 2 investigated

Related Events	Describe how and why the events appear to be related?
See May '91 on both	The idea of 'systems-based' solutions to managing learning, linked to both the SOL and UOT process - esp. the 'model' of learning in general gave me the ideas to develop the UOT and ITFM programmes.
See May '91	Saw extension of ITFM programme to the FT courses, plus other specific areas of practice - esp. the Cert. Ed. IT policies on ITFM and linked own learning of change-management - observed this in relation to development of idea of using Cert. Ed. teaching curriculum along with lines using UOT as an authoring tool, whilst testing its 'universality' of the same time.
See May '93	Applied the idea of designing a process management chart to discriminate rules and options between the two FT IT courses - on basis that giving student choice of course makes this process a 'learning plan' also.

Now ladder-up an overall description of the relationships analysed

More laddered relationships between own personal development - and that of the ITFM programme - now personal development was now esp. 'learning' of 'systems-based' solutions whereby educational systems could be identified in terms of 'process management charts' encapsulating the underlying operational systems. This awareness led to my theoretical development & analysis of both SOL & FT systems of learning related to IT in the form of ITFMs.

Researcher

S. Coombs

Project Ref:

CS111 - Ph.D. curriculum

No.

1

Date

21-7-94

SC/111/CS111/4.94

fig.(6. 25) Time-Line Talkback Record investigating relationships between personal learning and college re-organisation

Time-Line[®] Talkback Record



Action Research Domain 1 Account

Personal - 'action researcher' development

Interpretation of event-time relationships *between* events in domain 1 account

Event Range	Laddered-up thoughts, ideas and personal suggestions
	As per sheet 1 - (21-7-94) some comments

Action Research Domain 2 Account

IT workshop related events towards IT/FL college re-organisation period and 'me'

Interpretation of event-time relationships *between* events in domain 2 account

Event Range	Laddered-up thoughts, ideas and personal suggestions
Nov '90 - Dec '91	Original IT workshop development in library at MCC - original IT workshop action research proposal.
April '92 - June '92	New St. Austell college proposals & 3 year dev. plans - consolidation of both IT and FL as 'supported' in new framework 'vision' documents.
Sept '92 - Jan '93	Problems over re-organisation of IT into new curriculum group proposals - but positive feedback from adult students and sponsorship of IT workshop shield by Dean.
March '93 - Oct '93	Transfer and disbanding of old IT workshop to new site at Tenon FLE. Unqualified manager put in charge of IT/FL, management 'cut-backs' in support staff.

Interpretation of event-time relationships *across* parallel domains 1 & 2 investigated

Related Events	Describe how and why the events appear to be related?
See flow 'B1' on both	These events relate my initial learning of Sol system and ideas of IT/FL to the initial proposals for managers the IT workshop as part of MCC's core-skills model for FL to be central around the library. My learning included not only how to develop design the core-skills general IT module as IT/FL but also the staffing model - to be based on an 'in-the-job' reflective team approach to learning support. This was a key factor in the continuing to support these events was the problems caused by management re-organising the college along the lines - with backlogs received for IT/FL support. IT/FL was to be lumped into the Computing/Electronics curriculum group. This was the main debate/argument over the time role of IT/FL. I was able to write out the details of both re-organising the IT workshop to Tenon FLE and me in charge in charge of IT/FL with new manager appointed above me - running the set-up in familiar lines but receiving staff support for students. A great reluctance by management to tell me of my future role in the college.
See flow 'B2'	
See flow 'B3'	

Now ladder-up an overall description of the relationships analysed

Comparing relationships between my own development and 'change-management' issues. IT/FL during college re-organisation leads to two distinct phases of my action research programme - the initial phase where the project was initiated by respective line managers - and the second phase (from late 1992) where new senior managers attempted to close-it-all-down and marginalise my IT/FL role in the college - whilst incorporating the

Researcher

S. Coombs

Project Ref:

CS11L - PhD. action research

No.

2

Date

21-7-94

SC/11/1/CS11L/4.94

part of the practice developed

The 'flagged' time-line accounts can be seen in appendix section I7 : Own evaluations of key action research project events. The time-line talkback records are also exhibited in fig.(6.24) and fig.(6.25). The key 'personal-findings' I had laddered-up were as follows:

- "One key personal development was my own 'learning' of 'systems-based' solutions, whereby educational systems could be identified in terms of 'process management charts' encapsulating the 'underpinning' operational systems. This awareness led to my thorough development and analysis of both SOL and FL systems of learning, related to IT in the form of ITFM's.
- Comparing relationships between my own development and 'change-management' issues of IT/FL during college re-organisation, leads to two distinct phases of my action research programme - the initial phase where the project was wanted by supportive line managers - and the second phase (from late 1992), where 'new' senior managers attempted to 'close-it-all-down' and marginalise my IT/FL rôle in the college - whilst incorporating the best of the practice developed."

Both the above findings represent powerful summaries of both what I had achieved and what happened to my action research project in the IT Workshop. It is clear that despite my own career 'suffering', many of the good practices and intentions of the original action research proposal have been incorporated, nevertheless, into the newly re-organised college structure.

CHAPTER 7: Key Conversational 'Findings' from the Action Research Project

The original aims of the IT Workshop development were summarised in section 2.1.1 at the beginning of chapter 2. The IT/FL intentions were to:

- Convert existing taught IT courses and modules into a programme of IT Flexible Modules (ITFMs).
- Integrate diverse student targets - all in the same open-access workshop venue.
- Have students working autonomously from their own personal learning plans.
- To set up a systems-based management-of-learning model for the IT Workshop.
- Thus, to create an S-O-L environment for enhancing the individual learner's Capacity-to-Learn.

All of the above objectives have been either largely or partially achieved, as outlined by the evidences disseminated in chapters 4, 5 and 6. The SOL objective of increasing the learner's Capacity-for-Learning was aimed at most learners working in the IT Workshop - staff and students alike. This 'learning-ethic' is the central axiom that underpins the S-O-L conversational paradigm approach towards action research. The learning environment was therefore both developed and 'organised' using the SOL Systems 7 conversational blueprint. Employed as a means of creatively managing the IT Workshop along the 'team-based' ethical learning lines discussed in chapters 2 and 3 ; i.e. the 'Senge-SOL' approach to developing and changing the 'work-oriented' cultural practices underpinning the learning organisation.

By increasing the individual's Capacity-for-Learning it was intended that each new learning event would become a more skilled and creative process. Thus, increasing the quality of learning through enabling the 'self-organising' capabilities of the learner. This in turn, was intended to reduce the learner's dependency on tutor-directed activity and result in a more cost-effective flexible learning environment. The thesis was that creating such an S-O-L environment should lead to *increased learner-led* goal-directed activities, where learning *itself* becomes an on-going skill and self-developmental process - resulting in improved learner performances and educational outcomes .

7.1 Overall 'Findings' from the action research development

7.1.1 Development of IT and FL educational systems

The IT flexible module (ITFM) programme was acclaimed as being successful from a wide variety of sources:

1. The student evidences themselves, foundation and life-long learners alike - see the conversational accounts in appendix F3 to F8, recorded as part of their PLC 'management-of-learning' process.
2. Results from factor analysis (see fig.(6.6)) where self-organised learners operating in the IT Workshop environment are identified as:
 - Having an ability to learn IT more effectively.

- Having better personal management of FL learning resources through employing reflective management skills associated with their 'PLC-shell'.
 - Having 'ITFM' learning plans that enable both individual and group-based discovery learning through the conversational medium of IT-centred Goal Directed Activities (GDAs).
 - Enabling their self-pedagogic skills through development associated with *personal time management skills*. This was achieved through the autonomous IT practice of learning for C+G 7261 modules via the ITFM 'self-organising' activities programme.
3. Conversational feedback interviews from IT Workshop staff practitioners (see appendix section I6) saw Dave Cockin supporting IT learning through FL delivery. Beccy Bennet saw the ITFM development as: "the appropriate vehicle for IT", quoting the high examination success rates of all partaking students. Mick Underwood acknowledged that the ITFM development had successfully integrated both adult and school-leaver targets together, providing increased IT opportunities. Janet Sarah felt that ITFM delivery of her programming modules was more 'motivating', compared to her traditional BTEC groups learning the same content, but within the auspices of CL delivery patterns. Lastly, Sue Rawlings identified the C+G ITFM development as " the most important thing."
4. The number of students attaining passes for C+G 7261 IT modules significantly increased, both during and after the introduction of the ITFM programme (see the results spreadsheet in fig.(7.1)).

Over the action research developmental period of introducing ITFMs, the IT modular curriculum expanded from just three VQ¹ level 1 'conventionally taught' modules to eighteen 'flexibly delivered' modules, ranging from VQ level 1 to 3. As a consequence, a special examination system had to be set up, so as to process the sheer volume of increased student registrations and 'pass' requests (i.e. the examinations office spreadsheet illustrated in fig.(7.1)). All of these results were achieved by individual 'self-organised' learners taking part in the ITFM programme offered through the IT Workshop, and subsequently the Trenarren FLC from September 1993.

The College has now accepted the successful ITFM method (despite under-staffing it) for offering my C+G 7261 generic IT (NVQ equivalent) modules to any college student. The ITFMs are now being offered as a core-subject 'exam-based' option to all full-time students. The College is doing this mainly because there is a current financial incentive to do so. The College is eligible for additional funding from the FEFC under their 'additionalities' criteria - i.e. separate registration of any full-time students for additional examination programmes such as ITFMs attracts bonus 'wind-fall' funding points.

Also accepted is the link between IT learning and FL delivery. This is demonstrated through part-time and full-time students integrated into the same FLC venue following individual ITFM programmes. This idea was recently expanded to include delivery of other IT core programmes across the college.

¹VQ - Vocational Qualifications. The C+G 7261 VQ modular programmes are deemed as equivalent to other NVQ-rated IT programmes at the same levels - as discussed in chapter 1.

Consequently, the College has recently decided to deliver the entire GNVQ IT core-skills programme through the three main college FLCs, commissioning the 'IT Workshop' tutors (now based in the FLC's) to produce bespoke IT courseware learning resources. However, the college has not learnt the lesson that 'Boud et al' warn of, namely that putting students into a learning environment with an autonomous management process, does *not guarantee the enablement of autonomous learning skills* by the learners. It is for these reasons that many of the IT staff (when interviewed) pointed out that the FL 'management-vision' for delivering GNVQ IT core-skills was 'flawed', due to insufficient staffing support arrangements (i.e. support tutors operating as both learning coaches and IT specialists in order to enable this *essential prior learning curriculum of becoming a Self Organised Learner*).

Consequently, one of the key learning experiences I gained through conducting this action research project was to develop my awareness of the caution regarding development of standard educational FL/OL environments as learning products, rather than concentrate developments toward the 'self-organising' learning process of the intended FL/OL learners. Hence the argument from chapter 2, that 'other-organised' FL/OL systems in education tend to focus on developing the 'autonomous-product' learning environment. This results in the provision of *physical flexible learning resources* rather than *flexible personal learner support systems*, that aim to improve the 'self-organising' Capacity-to-Learn. This personal 'skills-based' curriculum was identified in chapter 5 as a S-O-L primary curriculum, operating both in parallel and symbiotically with the IT 'contents' secondary curriculum.

Symbiotic in the sense that each curriculum domain enhances the purposes of the other, i.e. IT provides a 'life-relevance' motivational domain to the SOL Learning Conversation, whilst SOL provides the learner's underpinning 'self-organising' capabilities for both managing and conceptually understanding the IT curricular tasks.

It is my view that educational resources tend to be concentrated on delivering subject-based content rather than developing the learner's learning-to-learn process. This suggests a lack of awareness by most educational practitioners of the importance S-O-L contributes as a prior learning-to-learn curriculum. This lack of awareness results in the low priorities assigned to resourcing the learning process rather than the product. Consequently, influential bodies such as the FEFC provide no funding models specifically to enable prior 'self-organising' skills for every FE learner, which suggests why colleges treat the issue as a low priority. The College therefore appears to be more concerned with addressing issues related to funding rather than learning - despite the short-sighted nature of adhering to such a policy. This view is also confirmed by John Perry, from his CHANGE grid findings, where he ladder-ed-up the idea that FL was being supported mainly for financial reasons.

From all the above triangulated evidences it can be seen that the ITFM programme has not only been a successful way of delivering IT using FL/SOL methods, but that it has influenced IT-delivery thinking and practice across the whole institution, with many staff claiming: "we wouldn't be where we are without this development." These successful claims of the ITFM programme were made by my IT colleagues - despite a common awareness shown by them of the

limitations underpinning the 'apparent' current college policy to 'under-staff' systems of learner-support in the FLCs.

7.1.2 IT Workshop staff development

Staff development through 'team-based' learning was a primary objective of the action research development. In chapter 2, I set myself the task of attempting to develop an FL practitioner team, with which both to manage students and develop 'learner-learning' services in the IT Workshop. This was presented along the lines of social work practice teams supported by Heap and others. However, it was also seen as putting into practice the ethics of social parity, via Rogerian 'congruent-oriented' S-O-L based Learning Conversations.

Thus, the 'management-of-learning' model adopted for IT Workshop practice was developed along the team-based lines of the CSHL Systems 7 S-O-L approach for learning organisations (see fig.(4.7)). Conversational learning tools were used to drive the Systems 7 S-O-L environment in the IT Workshop. These conversational tools were used for both evaluating and developing on-the-job team-learning awareness. The main conversational tool employed for learning evaluation was the CSHL repertory grid - from which team-learning evidences were discussed in chapter 6. Another conversational tool employed was the S-O-L Personal Learning Biography (PLB), which was used with IT tutors involved in the ITFM Cert. Ed. programme. The PLB then served the dual learning purpose of evaluating IT personal development in the IT Workshop, as well as providing a

means for developing a reflective journal for the Cert. Ed. - required as part of the 'in-course' educational objectives criteria.²

Thus, I was able to employ a mixture of feedback evaluation strategies using a variety of conversational learning tools. The choice of tool depended on a combination of good will and individual learning needs³ of team-members operating in the IT Workshop.

Team-learning in the IT Workshop was therefore encouraged through my adoption and practice of the Systems 7 S-O-L environment. Systems 7 encourages the idea of on-the-job learning, which is achieved through carrying out purposeful Learning Conversations relative to the IT Workshop 'systems nodes' identified in fig.(4.7). These 'nodes' represented the learning rôles adopted by staff operating in the IT Workshop S-O-L environment relative to the 'primary' learners themselves - i.e. the IT Workshop students.

Hence, the IT Workshop Systems 7 Learning Managers became myself and another colleague, John Perry. We both took turns in managing the learning environment in conjunction with other support staff and tutors. IT Workshop staff development occurred via on-the-job conversational relationships. These 'real-life' active learning experiences formed the S-O-L conversational action research basis of developing a joint practitioner team. Most IT tutors (including John and myself) operated as Systems 7 Learning Coaches, supporting the PLC learning process underpinning the student's individual ITFM

²See exhibits of Cert. Ed. PLB's in fig.(6.10) and appendix G3.

³Two members of staff from the IT Workshop opted to use the S-O-L 'PLB' template. It was offered as a tool to help support their Cert. Ed. 'reflective-journal' course criteria. Other tutors used alternative self-designed records and learning accounts as a 'PLC' means of evaluating their learning over time. All tutors, however, agreed to use CSHL repertory grids as a staff development tool, to enable team-based learning through conversational analysis.

programmes (we all had an allocated case-load of IT student 'learners').

Thus, the 'primary learners' in the IT Workshop are the students following their individual ITFM programmes. The Systems 7 Learning Policy 'setters' included myself - as the 'official' IT Workshop manager of the College - and the other core skills workshop managers, along with the College FL co-ordinator. This team of FL workshop manager-practitioners operated as the Systems 7 Learning Policy Group. This FL workshops steering group reported its findings to the College's SMT (see the reports in appendix B).

The *practitioner team approach* system for managing both student-centred learning and the IT Workshop centre itself was very successful, with supportive evidence coming from the following sources:

- Hilary Baker's reflective feedback from her on-the-job Cert. Ed. professional development, linked her own personal development to team-based experiential learning. In fact, she felt that her own learning was slowed down during periods of operating in an isolated environment, i.e. teaching without mutual team support.
- John Perry's Cert. Ed. reflective feedback linked team-work to a more 'democratic' style of management. Acclaiming the view that both peer-support and the team-approach were suited to managing an FL environment such as the IT Workshop, i.e. John valued the opportunity to hold on-the-job Learning Conversations with other tutors in the IT Workshop.

John contrasted the day-time activities of the team with himself managing IT evening classes in isolation, where group sizes in that particular 'isolated-tutor' context were identified as having a direct impact on learning management in general.

- My own key findings (based on social observations in the FLC) supporting team-work in action, noted the high frequency of staff seen interacting with one another on-the-job, so as to: " ..solve unpredictable spontaneous problems, both academic and technical".
- My initial repertory grid 'Steve1', highlighted the need: "That the IT Workshop required a joint staffing-team approach, integrating both admin. staff and tutors - on-the-job together - in contact with students."
- My CHANGE grid finding established that: "Success of the IT Workshop in the future is only assured through its team support and successful feedback by case-load student members."
- John Perry also identified in his grid 'John1': "Weakness of individual (by comparison to a team-approach) leads to lack of progress." With 'increased knowledge' and 'team dependency' elicited in John's final CHANGE grid, as evidence to support the IT Workshop practitioner team approach.
- Sue Rawlings identified the importance of a practitioner team from her grid findings: "Working and learning as part of a team is effective, provided that the team offers mutual support."

- Peter Reed's grid findings also acknowledged team needs: "A committed team is aware of both student and course requirement needs. It must plan accordingly, following it through. Team culture needs to be nurtured. Management are not aware of this concept."
- Team-work was also identified by Beccy Bennet as her immediate experience of starting work as the FLC manager in September 1993: "I work as part of a team - really - between yourself (Steve Coombs), John and the other part-time lecturers."

Most IT Workshop tutors therefore valued the Systems 7 S-O-L principle of team-based learning. With Sue identifying the important link between 'team-learning' and social parity as mutual support relationships across individual team members. This 'team-based' learning proviso of IT staff mutually working together with common groups of students side-by-side in the IT Workshop, equates to tutors performing their Systems 7 rôles relative to the intended learning node purposes of the S-O-L environment.

I would therefore conclude that management of any open-systems learning environment (be it IT Workshops, OLCs, FLCs etc.) can draw benefits, if it is organised along an SOL-based practitioner team model, whereby staff development is built into the everyday practice/work-experience, which is driven through on-the-job Learning Conversations, held within a spirit of mutual trust and Rogerian 'congruent' relationships.

7.1.3 The evolution of the IT Workshop Into a FLC

One of the key 'change-management' developments that occurred during my action research period was the incorporation and subsequent merger of my college into St. Austell College. This experience challenged all the organisational operations from within both Mid-Cornwall College of FE and St. Austell Sixth Form College. The merger brought about the scrapping of the MCC departmental system, with the creation instead of around a dozen Curriculum Groups. In parallel to these Curriculum Groups the Curriculum Support Group was also formed, containing both FL and Adult Education programmes.

The twin influences of the IT Workshop (see staff feedback evidences in appendix section I6) and Open Learning Centre led to the creation of three FLCs for St. Austell College - with the main 'flagship' being the Trenarren FLC. Thus, the IT Workshop was superseded by the FLC developments during the final year of the main action research period.

During this period of 'change-management' (from mid-1992 to the present) an on-going debate within MCC centred around future provision for IT and FL in the new college. Exhibits I produced supporting the case for integrating generic IT as a core skill, to be delivered through FL, were disseminated to college management working parties - see Appendix J. After much debate it was decided that all my full-time and part-time ITFM courses would go into the FL section of the Curriculum Support group.

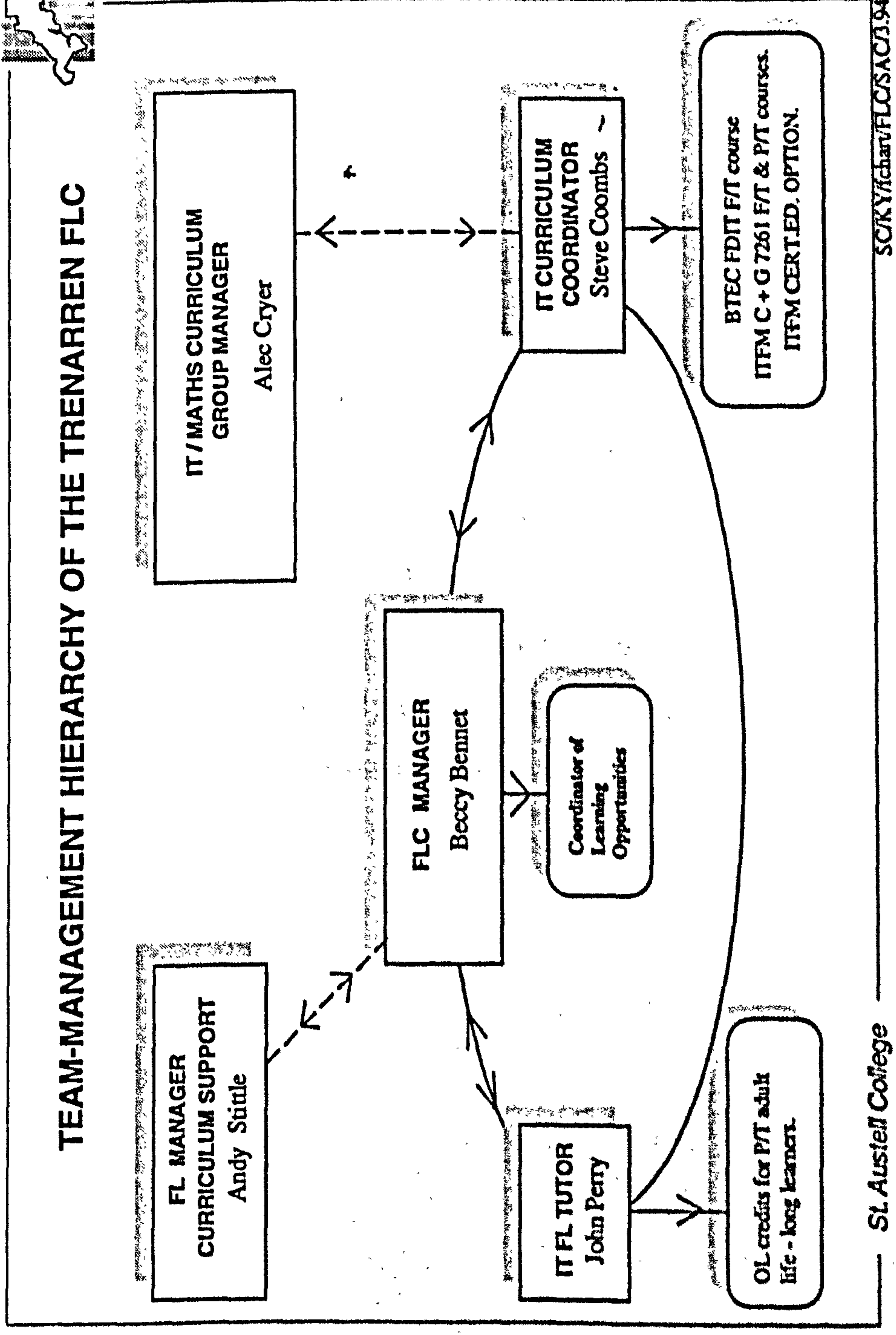


fig.(7.2) Exhibit of FLC Staff Team-Management Model - as of March 1994

This action satisfied one of my initial project aims of: " ..invoking lasting institutional change-management in the college ", through its adopting a new paradigm approach of delivering FL (c.f. CL practices), enabled by SOL-type practices (i.e. Systems 7 Learning Conversations through adopting a practitioner team-based approach to managing educational workshops).

The model depicting the resultant team-based management hierarchy of the FLC can be seen in fig.(7.2). Although this figure is now 'dated', since all my IT courses (myself included) have been recently re-deployed to Curriculum Support from the IT/Maths Curriculum Group, representing the consolidation of all ITFM courses within the department responsible for delivering FL provision across the College. With the cross-college GNVQ IT core programmes also in Curriculum Support, it would appear that my original arguments (see the foils in Appendix J) have eventually come to some sort of 'fruition', despite the problem of 'under-staffing' learning support.

7.1.4 Development of 'Conversational Learning Tools'

One of the important developmental areas of the action research project was the application of S-O-L conversational tools for both enabling and evaluating individual and team-based learning. Such 'tools' served to amplify the on-going Learning Conversation, yielding rich evaluative evidences of personal change - see chapter 6 findings. Conversational tools enable personal learning by acting as an external 'reflector' of the inner Learning Conversation, thereby aiding the 'self-organised' construing process of one's personal meaning system. Hence, conversational learning tools can be employed as 'elicitors' of evaluative data, providing a 'systems-based' scientific method of conducting qualitative analysis. Consequently, conversational learning tools have been specifically designed to augment the S-O-L action research paradigm of enabling the individual's Capacity-to-Learn.

Some of the conversational learning tools have been developed⁴ out of the on-going needs of the four year action research project. The following table summarises the 'tools' that were developed.

⁴Using CSHL conversational methodologies and procedures, the above conversational tools and learning aids have been either adapted or developed - see chapter 3.

Conversational Learning Tool Developed	S-O-L Design Source	Other Design Influences	Systems 7 Learners
Universal Design Template - to author conversationally a FL/SOL module relative to some curriculum content requirement	Designed using the PLC process underpinning FL curricular learning plans	Adopted a cybernetic 'systems-based' analytic procedure towards organising and delivering FL	Intended as an authoring tool for designing ITFM's, by the Learning Manager also operating as a domain expert
Talkback records - used with CSHL repertory grids, Factorgrams and Time-line accounts	The conversational laddering-up of meaning process relates to the CSHL hierarchical trees analysis procedure	The talkback records developed represent a S-O-L praxis for delivering Discursive Discourse Analysis, i.e. a systematic method of eliciting and recording findings	Used by Learning Managers, Learning Coaches as IT tutors. Used primarily as an evaluative tool for grids and by myself to ladder-up Factorgram and Time-line findings
Factorgram - Conversational factor analysis record of factor pattern dimension	Enables a conversational analysis of questionnaire numerical data, using a Kelly-type 'triadic' cluster analysis	The Factorgram allows qualitative analysis of quantitative results, so as to 'find' the hidden factor dimensions	Used by myself as action researcher to qualitatively analyse factor analysis data results from PLC 'primary' learner questionnaires
Spidergram - tool to elicit both learning focus and related personal evidences as 'items' of experience	Design underpinned by the S-O-L Structures of Meaning procedure	Design influenced by the Gestalt principle of discovering a personal focus that leads to identifying 'part-experiences' describing the whole experience	Used by all learners in the IT Workshop for a variety of purposes, ranging from project management to eliciting elements for repertory grids
Triadgram - enables independent paper-based triadic analysis of elicited elements	Paper-based version of the CSHL TRIGRID procedure.	Employing Kelly's triadic technique of eliciting bi-polar personal constructs	Used by IT Workshop staff to independently elicit PC's for a raw grid
Time-line - project management domain record of key events	S-O-L PLB influenced idea of evaluating & recording learning events over time	Rom Harré's ethogenics, where learning can be recorded from social episodes over time	Used by myself as an action research project management tool for recording key learning events

The table summary produced disseminates the original S-O-L sources and other design influences. Also identified are the IT Workshop Systems 7 learners for whom the 'tools' were intended.

All of the *conversational learning tools* used were designed to author/develop, elicit, reflect, review, summarise, evaluate and record personal evidences and accounts of learning towards the overall action research analysis. A key design purpose of conversational learning tools is that they help the learner to 'model' their own experiences using the S-O-L MAR⁴S procedure - as outlined in chapter 3. The tools developed take into account the need for enabling a personal modelling heuristic such as MAR⁴S, which is why many of the paper-based records include sections for reviewing ideas, recording them and then re-evaluating and 'spiralling' new thoughts. Hence, the scratch-pad boxes on the talkback records and Triadgrams etc., allowing the individual to explore and 'model' new thoughts and ideas related to the personal investigation being construed. All of these *conversationally active learning processes* therefore constituted the means of both driving and recording the Systems 7 S-O-L environment in the IT Workshop.

7.1.5 Summary of my own personal learning

Conversational analysis of the action research activities I was involved in was recorded using the evaluative 'tools' summarised in the table in the last section - 7.1.4. The key tools I used to both elicit and evaluate my own learning involved CSHL repertory grids and time-line accounts. These learning accounts provided myself with an analysis between key personal and project events over the action research 'social episodes' (see appendix section I7 and chapter 6).

Key learning events were recorded by myself using an action research log book. The principal learning scenarios occurred at the main action research venues: the CSHL venue at Brunel University and the IT Workshop at St. Austell College. Thus, a log of learning activities included my action research tutorials with my supervisor as well as the Postgraduate S-O-L student seminars. My time-line learning accounts served as a useful project management tool, in the sense that the key identified learning events were organised into separate domains of inquiry - see chapter 6 section 6.4 . In summary, the key *personal paradigm shifts* representing my own 'learning' over the whole period, were as follows:

Event	Previous perspective	New perspective	Concept gain
6/90	Physical science experimental paradigm	Conversational experimental paradigm	Accreditation of personal values attributed to conversational learning management
6/91	Learning related to discourse or document dissemination of syllabus content only, i.e. confusion between CL & FL processes	Process - Content learning management model for delivering FL	UDT for designing any FL/SOL learning plan
11/91	Staffing rôles between teachers and admin. support are clearly defined by the CL funding paradigm	That FL requires a new set of staffing rôles and practices that provide for workshop support	That FL scenarios operate effectively with a practitioner staff team model
11/91	MMI view of IT software and courseware design relative to both CL & FL delivery systems	Human Learning Interface (HLI) relative to organisational Human Resource Interface (HRI) and Personal Resource Interface (PRI) of the learner	That FL delivery systems are designed relative to both a HRI and PRI via S-O-L

Chapter 7 : Key Conversational 'Findings' from the Action Research Project

12/91	Repertory grids are cumbersome and difficult to use without help	Awareness of need for a Personal Construct and element self-enabling tool	Linked Gestalt and SOL to design the Spidergram tool etc.
12/91	Change-management loosely seen as ideas put into action	Enhanced view of ideas being elicited using metaphors, as a visionary tool towards a newly conceived language/process	Idea-management i.e. tools to enable and capture ideas through 'modelling'
1/92	Purpose of FL tutor seen as that of an educational facilitator of resources	Rôle of tutor seen as both facilitator and enabler	Learning coach rôle as therapist
2/92	Conversational individuals develop SOL skills through reflexive review-based strategies i.e. PLCs etc.	Enhanced, to a view of SOL relative to the quality of an individual's (internal) personal management system (PMS), which is unique and a function of personal time, awareness and experience	The PMS of any individual is related to level of SOL skills adopted, i.e. one's SOL capabilities or Capacity-to-Learn
6/92	SOL skills developed relative to a core-skills curriculum outside of specific courses	PLC seen as a core skill learning to learn process, independent of curriculum content, but capable of being built into any course	Personal learning is a self-management process, led to creation of the SOL study kit
7/92	Organisational management seen as a hierarchical process linked to both status and control, timeless in nature	Idea of an Active-Support systems management process, relative to both individuals & social organisations, time-dependent in nature	That change-management of indi's & organisations are related to an active-support communications process
11/92	Difficulty of managing 'triadic' grid process, due to time-consuming sessions and lack of any simple tool	Could design a conversational learning tool, to enable independent usage of triadic procedure in an efficient and effective manner	Led to a general S-O-L design specification for conversational learning tools, leading to the Triadgram etc.
1/93	Use of notes and cards to store research source references, but no tool to capture related focus to concerned field of interest	Use of conversational tool idea to develop research needs from sources i.e. capture related focus & personally construed argument	Development of Personal Log of References as SOL structures of meaning method, to both elicit and record ideas and arguments

11/93	Lack of any method to ladder-up 'dimensions' from the factor analysis results obtained from PFQ analysis	To link the repertory grid. meaning elicitation systems with Kelly PC idea, and develop a conversational learning tool	Factorgram tool led to idea linking discursive discourse analysis to SOL Talkback records etc.
12/93	Awareness of a lack of any official underpinning research methods for 'new paradigm social psychology research'	The action research methods were identified and linked together to form an S-O-L experimental process or praxis, i.e. social learning proposal, context, field and scenario, accounted over social episodes as time-related developmental evidences	Key concept of a chronodevelopmental active process relative to action researcher and project. Idea of social learning proposal as initial stage Links to SOL PLB and Systems 7 methods of learning evaluation
1/94	Semi-awareness that most social psychological models adopted seemed to relate to either persons or social organisations	That most models and metaphors explaining how 'social systems' and 'learning processes' work are relative to both individual and organisation	That any sensible model or metaphor describing a social learning process is relative to both the person as a social being, and the social organisation

Thus, it can be seen from the above personal paradigm shifts that I have experienced over the duration of four years, that my views and approach towards research have fundamentally changed. This is reflected in the sudden changes of both 'method' and 'tact' after new insights had been gained. From a traditional research paradigm, this *developmental approach over time* method would appear to be a somewhat unpredictable and uncontrolled state of affairs. However, my SOL experiences at CSHL have taught me that it is in the very nature of genuine action research that *methods applied in the field* are both responsive and commensurate to the nature of real-life social learning needs.

These needs represent a genuine *social parity* between myself as action researcher and those persons that I am both working and living with within the 'real-life' IT Workshop working scenario of the S-O-L Systems 7 environment.

Another method used for 're-examining' my key learning experiences of the S-O-L action research project, was to explore my own key 'learning-event' findings using a Spidergram - see fig.(7.3). The benefits of using this simple 'tool' allowed me conversationally to 'focus' my 'whole' learning experience in Gestaltian terms, whilst 're-modelling' these prior evidences 'learnt' within the S-O-L MAR⁴S heuristic. This process illuminated new interpretations upon prior experiences and consequently 'spiralled' the key lessons learnt for final dissemination in this chapter.

The conversational method towards action research can be as systematic as the traditional approach, but additionally benefits from the fact that it both allows and accounts for personal processes of change, i.e. a S-O-L personal change-management approach towards individual learning within the context of a real-life action research setting. A conversational evaluation approach integral to the S-O-L action research paradigm demands rigour, viability and validity. But in contrast to the traditional paradigm, rigour is based on personal P-S-O-R justifications.⁵

⁵The S-O-L P-S-O-R process was employed by myself as both a 'project-management' tool and as a means of evaluating my own learning relative to the Systems 7 development of the IT Workshop. See the PSOR models adopted in chapter 4, which underpins the PLC process for ITFMs, and chapter 6, as a rigorous means of managing and evaluating conversational 'learning-findings' from action research projects.

Viability depends on the quality of personal actions pursued, and validity is based on both the quality and directions of change to meet the *evolving purposes* over time.

Consequently, the 'SOL-PSOR' learning process has been a very useful project management tool, as it builds-in on-the-job team-based evaluation. This process serves as a conversational learning tool that enables personal 'time-based' project management of events. This, in turn, enables *evolution* of the new work-based culture being developed. The PSOR process therefore serves as a useful change-management project development tool, enabling team-based *transfer* from old to *new paradigmatic systems* of organising work. Such a change-management process that involves the use of conversational learning tools to enable *systems* of work-based learning is seen as the S-O-L central stratagem for *becoming a genuine learning organisation*. Thus, all persons in the organisation are seen as both *learners* and *contributors*, and consequently should be involved in helping to *shape the future destiny* of the working practice and the culture that underpins it. Hence, the action research S-O-L praxis of managing change through self-organised learning awareness of both the process of change, and helping to shape it through congruent team based actions.

7.2 Action research implications for future practice and development

The key lessons learnt from this action research cover a wide variety of interests, ranging from: *"how to conduct future action research projects within a S-O-L conversational paradigm"*, through to: *"how the integration of S-O-L into FL-based delivery systems, could serve as a means of improving the quality of all such educational programmes currently being offered in both FE and HE"*.

I have decided to organise these interests into three sections covering:

- transferable principles relevant to college practice generally;
- future project areas where the S-O-L action research praxis could be further developed;
- an 'ideal' application of the S-O-L Systems 7 environment for operating a flexible learning IT service centre.

7.2.1 Key transferable principles for other colleges

This section concentrates on five key areas, presenting the action research findings as key transferable principles for other colleges to adopt. These five key areas can be summarised by the following general suggestions, that I would like to make to all those educational 'managers' responsible for organising and delivering FE/HE

Firstly, I suggest that colleges might consider organising themselves along the lines of S-O-L Learning Organisations, adopting an action research-based learning culture for developing team-based learning.

Secondly, I would suggest that practitioner learning teams - underpinned by the ethic of social parity - create the *ideal* social learning environment from which team-based conversational relationships can be congruently managed and delivered in practice.

My third suggestion links the S-O-L Systems 7 environment, as a suitable solution for both developing and managing team-based learning within the Learning Organisation.

My fourth suggestion looks specifically at the links between IT educational delivery systems and developing an organisational learning policy.

Lastly, I strike a note of caution against what I perceive to be an 'anti-learning' and 'behaviourist' culture currently dominating the management and delivery arrangements of FE/HE generally, using S-O-L and other evidence sources to explain why and how this should be avoided. I suggest that FE/HE learning policy issues related to improving the quality of learning should be underpinned by commensurate funding mechanisms - not the other way around, where learning mechanisms appear to be currently subordinate to newly imposed external funding models.

The key transferable principles from my action research programme have now been offered as a set of suggested recommendations for developing 'good-practice' in other colleges. The following sections expand upon the suggestions made above, providing the underpinning rationale for these statements.

This rationale is gleaned from my action research experience of developing an IT Workshop based on an integrated approach towards delivering both FL and Self-Organised Learning.

① **Create an action research-based learning culture**

The S-O-L action research conversational paradigm has been earlier defined as enhancing the individual's Capacity-to-Learn. Where all persons in the work-place are seen as potential learners, capable of helping to 'shape' future practice by playing a useful rôle in the organisation's change-management policy.

I have learnt that getting people - colleagues, students etc. - to question: '*what they are doing*' and '*why they are doing it*', as part of inculcating the reflective practitioner climate, is very beneficial towards the setting up of an organisational learning culture. This method of encouraging persons to 'question-the-process' they are actively working within, is equivalent to the S-O-L policy of raising the learner's awareness of the learning system⁶ within which they operate. Such questioning takes learners deeper into a MAR⁴S-type reflexive process, which ultimately results in an enhanced Capacity-to-Learn. Significantly, this is congruent with life-long continuous learning, where each learning event 'bootstraps' both the quality and economy of the underlying learning process.

⁶See chapter 3, section 3.1.2 part 2 - 'Three stages of personal awareness', where the S-O-Ler is seen as having the ability to conduct a 'learning-focused' conversation, demonstrating an awareness of the process of learning - see fig.(3.5).

This enhancement of a Capacity-to-Learn applies equally to teams, departments and the organisation as a whole. This 'goal' of an *organisational learning culture* can be achieved, provided that individuals can operate meaningfully as self-organised learners within the organisation.

I have found that running my action research project has given relevance towards achieving this organisational goal. This was achieved mainly through my policy of involving colleagues in the IT Workshop as 'equal learning partners' of the action research project I had set up.

Colleagues, such as John, became inspired to use the conversational learning tools I had introduced for their own purposes and professional investigations. In John's case, he used the CSHL repertory grid procedures for qualitative analysis of factors affecting teaching group sizes for delivering IT. John's 'learning-inquiry' into discovering factors affecting IT group sizes, involved three other IT Workshop colleagues including myself.

As a result of this particular team-based learning episode within the IT Workshop setting, conventional IT teaching group sizes were able to be distinguished from larger group sizes attending the IT Workshop flexibly - see John's feedback in appendix section G4. This ability for fewer tutors to cope jointly with an overall larger group size attending the IT Workshop, was identified and linked to the team-based nature of tutors mutually supporting each other in a FL/SOL environment, where in the 'open-systems' learning environment of the IT Workshop, many target groups of students 'mix' and operate in parallel to one another in the same venue (see chapter 2, section 2.2.2).

Thus, IT Workshop tutors developed *team-based learning* through taking part in the action research process itself, developing personal projects and pursuing individual educational interests within the framework of the team approach. This team approach is supported by the use of S-O-L conversational learning tools, which acted as useful learning aids to help raise the 'awareness' of individual team members.

② Practitioner learning teams and social parity

A key lesson I had also learnt, was that if persons/practitioners in charge of organising learning opportunities *aren't aware of the learning processes* involved, then curriculum solutions applied in practice can be flawed, e.g. Fran's confession of sudden awareness of prior learning needs totally transformed her approach towards organising and delivering her curriculum programme (see appendix section E1).

Thus, how can any college pursue educational excellence if the policy setters and its staff *are not aware* of the relationships between educational and learning processes? I believe that these *awarenesses of practice* can be enabled through appropriate management and support of field-based action research, where individual members of staff are encouraged to become S-O-Lers, through adopting the S-O-L action research conversational paradigm towards team-based curriculum development projects.

This suggests a policy of linking staff development projects directly to one's actual practice, in other words, integrate staff development with on-the-job curriculum development, so that it operates from within a S-O-L action research praxis. This S-O-L praxis can be achieved through developing *learner self-awareness* through the use of PLCs and GLCs. It should be noted that the paperwork supporting this process⁷ are only learning support aids, used with the intention that staff, as learners, go on to develop the 'self-organising' skills and Capacity-to-Learn that represent a personal paradigm shift in both attitudes and skills towards learning.

Thus, action research (conducted through a policy of social parity) that develops on-the-job social relationships via a system of Learning Conversations, enables team-based staff development. This field-oriented approach to staff development also allows for real-life 'testbed' experimentation of curricula. Hence, the educational importance of integrating both staff development and curriculum development, as part of the ethical praxis governing the practitioner team approach in colleges of FE/HE.

③ **FL/SOL 'systems-based' solutions for 'Learning Organisations'**

My action research project was conducted using the S-O-L conversational environment of Systems 7. The CSHL centre at Brunel University therefore served as an integral component from which I could conduct Learning Conversations regarding my action research via tutorials and seminars.

⁷Paperwork supporting PLCs and GLCs for staff development projects includes data collection charts and recorded conversational texts. These are to be distinguished from the conversational learning tool processes, which seek to enable personal 'modelling' of one's experience through use of S-O-L 'PSOR' and 'MAR⁴S' heuristics.

I therefore found it very useful to have a centre (such as the CSHL) where I could both bounce ideas off people and have challenging discussions about my action research. Indeed, my tutors and post-graduate colleagues at CSHL provided me with a personal 'point d'appui', which encouraged/inspired me to 'try-out' new ideas of practice in both the IT Workshop and subsequent FLC. Thus, I would strongly recommend close involvement with research enabling bodies, such as the CSHL, as a means of developing new practices through inter-institutional collaboration.

The key lesson I learnt, was the importance of integrating SOL practices as a means of developing FL delivery systems in the IT Workshop. I would therefore suggest that any institution wishing to implement FLC workshops should consider themselves as developing a new culture towards the management of learning. Hence, it is suggested that the institution considers itself as being a *learning organisation*, from which it can investigate its *learning purposes* by using the CSHL Systems 7 S-O-L 'blueprint' as an awareness raising tool. I found Systems 7 particularly useful for designing the learning purposes underpinning the staff team-based arrangements in the IT Workshop (see chapter 4, section 4.3 and fig.(4.7)). By using conversational learning tools (such as the PLC, PLB etc. employing the PSOR and MAR⁴S heuristic) which are built into the Systems 7 S-O-L environment, an institution can readily identify its own unique systems-based solutions for organising and managing learning environments.

In the IT Workshop I integrated the use of the S-O-L PLC process as a means of increasing the 'self-organising' capability of learners pursuing the IT flexible module programme. The 'primary learners' were IT students attending the IT Workshop to follow individual ITFM programmes negotiated as part of their PLC process. The integration of the PLC process into the ITFM programme led to the development of a parallel curriculum for managing IT FL. This parallel curriculum comprising of a FL/SOL delivery process independent of subject content. In the case of ITFMs, IT 'contents-based' skills were underpinned by developing S-O-L personal 'process-based' skills.

Thus, the ITFM programme was a curricular systems-based solution applied to learning policy underpinning the FL/SOL nature of the IT Workshop operating as a S-O-L Systems 7 environment. The generic nature of this ITFM system led to the development of the Universal Design Template, which serves as a generic blueprint for developing any subject-based curricula into a SOL/FL programme. My suggestion to other colleges wishing to pursue educational programmes delivered by either flexible or open learning means, is to adopt S-O-L systems-based solutions. This can include the use of the S-O-L Systems 7 environment applied to any educational delivery context. My ITFM programme is also recommended, as a flexible means of delivering both IT and S-O-L skills. However, my development of the UDT process suggests that SOL/FL delivery can be generically applied to any area of the standard college curriculum.

④ **IT systems and learning policy**

IT as an educational tool provides new opportunities to both experiment with and develop the whole learning delivery process itself. The IT Workshop was developed as a real-life 'testbed' open-systems social learning scenario, from which to experiment with new forms of delivering IT education. This IT delivery issue was also discussed in the context of the DELTA mission, which seeks to utilise and develop new learning technologies for mixed learner targets through regional 'service-centres' (see chapter 2, section 2.2.7).

It is therefore important to understand the relationship between the IT educational systems being developed and the learning policy it serves. In organising the delivery and learning of core IT skills, I would like to suggest the following ideas as a basis for drawing-up a college's IT Learning Policy:

- Discriminate between 'generic IT' and specific IT subjects.
- Link generic IT delivery to both academic and core curriculum areas, whereby IT can be used as a 'tool' - broadened in scope - to include Advanced Learning Technologies that support Learning Conversations throughout the college.
- Use FL/SOL as a 'flexible' means of both delivering and managing IT learning, deploying open-access service-centre facilities such as workshops, FLCs etc. as a core curriculum resource.
- Use IT practitioner teams to share both 'task-loading' and 'IT specialist knowledge', as a pool of learning expertise/support for all students and other staff in the institution.

- Adopt the practical principles established in the Hopkins report on the management of IT learning in FE/HE institutions.
- Integrate both staff development and curriculum development of IT as a team-based on-the-job *learning activity*, with individual staff personal goals tied into 'testbed' curricular solutions as the policy for professional development and appraisal.
- Develop a Learning Policy integrating IT-based support facilities. Employ the use of the S-O-L Systems 7 environment as a means of developing IT flexible learning delivery systems. Enable the management of IT learning by using programmes such as ITFMs, which are underpinned by the S-O-L PLC process. This enables better quality IT learning through developing the individual's Capacity-to-Learn via the S-O-L 'MAR⁴S-modelling' heuristic.

⑤ What to avoid

My final recommendation is a caution of 'what to avoid'. Since starting my action research project, the world of Further and Higher Education (FHE) in the UK has been dramatically reformed. All colleges have been removed from LEA control and local funding arrangements. Instead, FHE colleges have all become independent corporations funded from two central bodies, the Further Education Funding Council (FEFC) for FE and the Higher Education Funding Council (HEFC) for HE.

At the same time, both Councils have demanded radical changes in the parameters governing the funding framework of FHE, with pressure on college managements to increase productivity for standstill budgets (see chapter 2, section 2.2.1). The immediate results of these changes in my own college has led to the number of course teaching hours being cut-back across the board. For example, both my BTEC First Diploma and C+G 7261 ITFM full time vocational courses have had teaching support hours reduced from 23 hours per week to 20. The introduction of GNVQ to replace existing full time vocational courses means another reduction to about 15½ hours per week. The FEFC has also announced which courses it is prepared to fund. For example, GNVQ courses will attract slightly higher funding than existing vocational equivalents - encouraging college management's to opt for the new funding-led arrangements which increase productivity. Unfortunately, the 'productivity' being achieved at the moment is being underpinned by the following:

- Increased class sizes for all courses.
- Increased class contact hours for all UK FE teaching staff, plus loss of holidays, through the introduction of new 'un-negotiated' CEF contracts of employment.
- Reduced hours for all full-time FE student courses.

Thus, an *organised* 'funding productivity' has been gained (I fear) at the expense of any planned 'learning productivity'. Myself and colleagues are therefore under increasing stress from having to spend more time teaching and 'cutting-corners' in order to survive.

This is not a new problem facing the world of education. In 'Zen and the Art of Motorcycle Maintenance', Pirsig⁸ identifies the archetype of the *anti-learning culture*, which could be described as 'unreflective practice syndrome':

"At a teaching college you teach and you teach and you teach with no time for research, no time for contemplation, no time for participation in outside affairs. Just teach and teach and teach until your mind grows dull and your creativity vanishes and you become an automaton saying the same dull things over and over to endless waves of innocent students who cannot understand why you are so dull, lose respect and fan this disrespect out into the community. The reason you teach and you teach and you teach is that this is a very clever way of running a college on the cheap while giving a false appearance of genuine education." (p.140)

These are prophetic words of advice. I would caution any college management going down the road of prioritising 'funding' arrangements at the expense of its own staffing practice. Engendering an anti-learning culture therefore undermines organisational learning, through enforcing policies of change-management without the genuine support of staff. As Pirsig would no doubt recognise, this kind of environment leads to a dull, demoralised and un-creative work-force. I also identified from Senge, Kelly and Thomas that an organisational environment with an *adaptive policy* towards issues of change-management, leads to both *resistance* and *hostility to change* (see chapter 2, section 2.1.2 and chapter 5, section 5.1).

⁸[Pirsig, 1974]

Self-organised learning is one way in which work-based productivity can be improved without having to upset and alienate staff. Indeed, this case has already been presented, where sufficient initial investment in learner support systems to enable S-O-L will lead to a permanent life-long Capacity-to-Learn, where S-O-L individuals have the ability to creatively adapt and contribute to change. Harri-Augstein and Thomas⁹ show an awareness of the need for people to become self-organised learners, in order to cope with the ever-increasing changes in both society and technology:

"In a society which is reviewing its deepest social attitudes and institutions, and is facing an accelerating rate of change in its economic and industrial structures, the ability to participate in these changes, influencing them and adapting to them, depends upon a capacity for self-organised learning. .. Freedom to construct our personal destinies by creatively adapting to change requires an ever-increasing capacity for learning." (p.xxiii)

Given that colleges of FHE cannot change the rules imposed by the funding councils, I would strongly suggest the adoption of a change-management Learning Policy underpinned by S-O-L. If the college is then managed along the lines of a Learning Organisation, then all staff within the college should be able to both cooperate and contribute to these new 'model' learning practices. If staff in colleges are encouraged to pursue an action research paradigm based on Systems 7 S-O-L, with the use of embedded conversational tools, then hostility and creative tension towards change can be reduced. Instead, staff can work towards the achievement of identifying common learning aims, through developing skills of personal learning empowerment.

⁹ [Harri-Augstein & Thomas, 1985]

7.2.2 Future developments and opportunities for S-O-L action research

This section suggests a number of future development areas which I feel that my action research has touched upon, but not fully explored. The action research model I adopted included the integration of new paradigm ethogenics into SOL systems-based practice. The methods I have investigated and developed represent a possible new way forward for action research in general, with the hope that I and others can 'pick-up' and continue development of the practices/methods experimented with as part of this action research study.

A significant part of this thesis examined action research methods. In particular, new paradigm social psychology methods were investigated. Whilst many of these methods contained sensible ideas, the actual approach towards both organising and managing action research appeared to be somewhat vague, with no clear-cut definition of an operational praxis. However, many of the sound ideas behind ethogenics were identified and incorporated into the practical praxis of S-O-L (see chapter 3, section 3.2.2 and fig.(3.10)), where both action research paradigms are compared. The central axiom underpinning the S-O-L action research praxis, however, was the over-arching responsibility to enhance the individual's Capacity-to-Learn. Thus, all persons operating in the S-O-L action research praxis are deemed to be life-long learners working within a conversational paradigm, that enables self-organisational skills acquired within the practice field.

In particular, future action research could:

1. Develop the ideas 'underlying' the experimental research evaluative processes. This could be achieved by integrating the process management model¹⁰ underpinning 'quantitative-qualitative' evaluations into an appropriate kit of 'IT-based' conversational learning tools for standard idea/project management techniques. A project management IT 'tool-kit' could, in practice, make use of Don Bannister's three-phase creativity cycle that I had identified in section 3.2.2, which employs 'reflexive theory' underpinned by Kelly's PCT. The three phases of the creativity cycle were identified as a useful S-O-L praxis towards developing a Conversational Tool kit for personal project management of one's action research.
2. Develop the area of Factorgram analysis to include a wider sample of persons (other than just the action researcher) in the talkback procedures, so as to further explore and enhance the qualitative interpretation of factor analysis results, via the real-life Learning Conversations of those involved in an original questionnaire study. This concept also applies to project management tools such as time-line records of personal events, i.e. all colleagues could be invited to record their own time-lines of significant learning events over a development period, and subsequently ladder-up personal results using talkback records.

¹⁰This 'quantitative-qualitative' process management model was generically identified and illustrated in fig.(6.3.1), where the experimental process is underpinned by the S-O-L PSOR procedure.

3. Develop IT KES (Knowledge Elicitation System) tools for the above conversational procedures, underpinned by the design concept of the S-O-L Intelligent Learning System (ILS), i.e. IT courseware and software development of 'awareness-raising' project management conversational learning tools for action research. Such ILS-based tools represent a new interpretation of AI design principles, shifting radically towards the concept of 'machine-led' empowerment of personal management skills, operating 'intelligently' within the S-O-L conversational paradigm. Thus, AI/IT design is considered not from the commonly accepted MMI axiom (which seeks knowledge development of the machine-based system itself, i.e. KBSs) but rather, from the perspective of enabling an individual's PRI, using S-O-L conversational 'modelling' procedures. Such a paradigm shift from developing AI/KBSs to that of AI/ILSs, provides technological learning tools satisfying the CSHL recommendations of designing ILSs (Intelligent Learning Systems). These already exist as ILS procedures developed at the CSHL. They currently include:

- PEGASUS software - repertory grid procedure using 'real-time' analysis of structure.
- FOCUS, TRIGRID, PAIRS, EXCHANGE, CHANGE, SOCIOGRIDS & THESAURUS software - all for conducting repertory grid Learning Conversations and analysis of personal meaning.
- Flow Diagram - useful for both the representation and authoring of texts.

- Structures of Meaning procedure.
- Personal Learning Task Analysis procedures - useful for 'modelling', employing both 'PSOR' and 'MAR⁴S' heuristics.

All the above ILS procedures are underpinned by 'Kelly-styled' personal elicitation techniques. These ILS techniques enable the individual learner's Capacity-to-Learn through 'modelling', via the S-O-L PSOR and MAR⁴S heuristics.

Other contributions to conversational learning technology include:

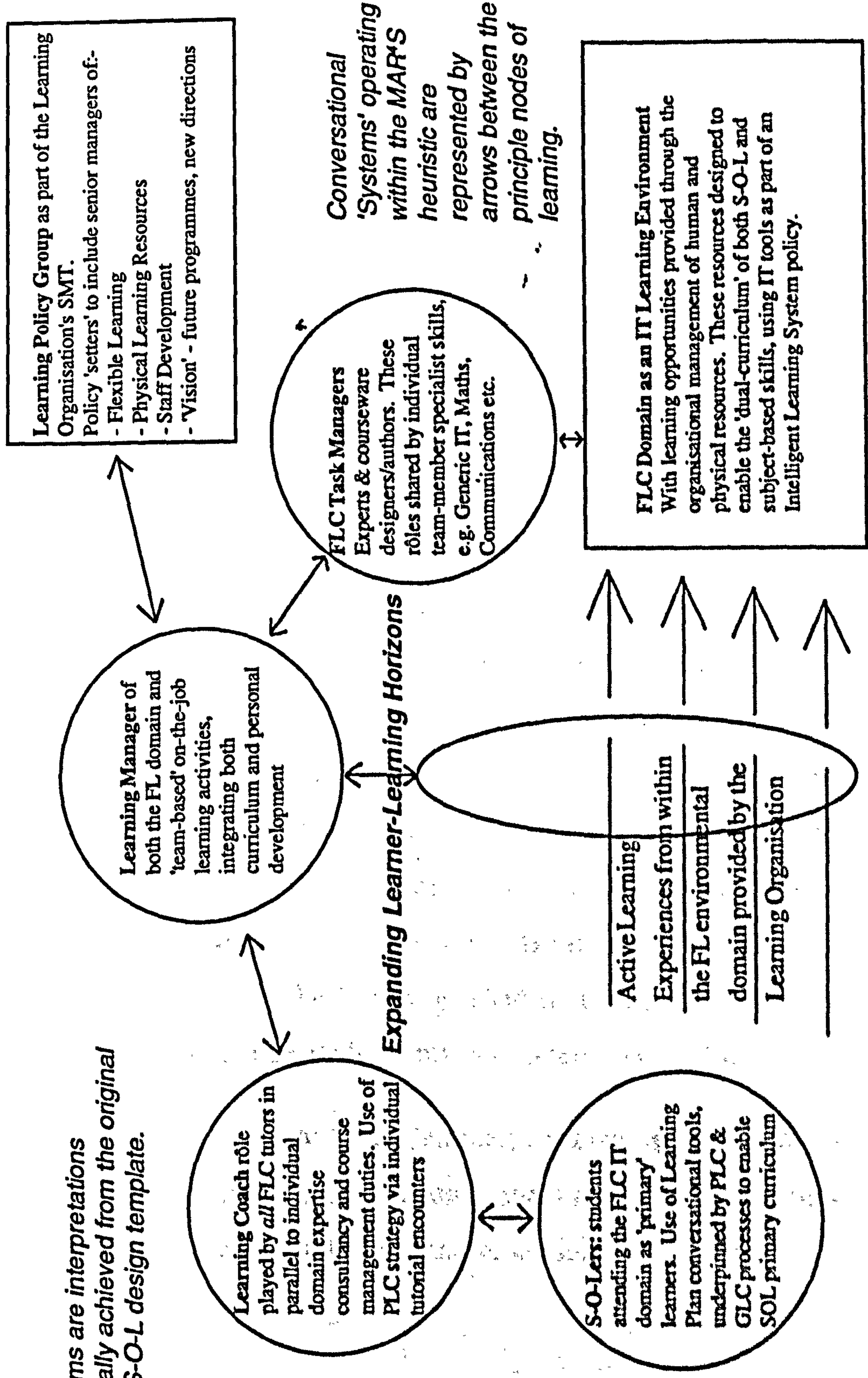
- Pask's Entailment Structures and THOUGHT STICKER - cybernetic oriented software design relative to Pask's P-indi and M-indi paradigm.
- Lama Govinda's 'pyramid planes of existence' - depicting structures of consciousness.
- The new 'object-oriented' fifth generation computer language programs such as Microsoft's Visual Basic[®].

I would therefore suggest further development of the S-O-L ILS Chat-to-Learn¹¹ procedure (as an 'all-embracing' conversational design specification) as a means of enabling the future development of all pedagogic IT software and courseware.

¹¹The ILS Chat-to-Learn procedure is both discussed and illustrated as a flow-diagram in "Learning Conversations", [Harri-Augstein & Thomas, 1991, pp.374-377]

fig.(7.4) Ideal 'Systems 7' Learning Organisation Paradigm for Managing a Flexible Learning IT Environment

Both paradigms are interpretations conversationally achieved from the original 'Systems 7' S-O-L design template.



7.2.3 How Systems 7 S-O-L could ideally operate in a flexible IT learning environment

This final section of my thesis describes a personal vision of how a flexible learning IT environment utilising Systems 7 S-O-L might be operated. Also described is a proposed Systems 7 personal learning organisational paradigm, which applies the learning nodes of Systems 7 as personal domains of 'self-organised' internal relationships.

In chapter 4 I described how Systems 7 was applied to define the learning management organisational model for the IT Workshop - see fig.(4.7). I would now like to 'update' that earlier model with an ideal Systems 7 learning organisation paradigm for managing a flexible learning IT environment. This new 'ideal' paradigm incorporates the key lessons learnt from the IT Workshop action research and attempts to 're-model' these outcomes by feeding them back as new ideas into the original Systems 7 IT Workshop plan proposed in fig.(4.7). My current envisaged proposal of how the Systems 7 S-O-L paradigm can be used to reform current FL structures is illustrated in fig.(7.4), where I have taken into account the following identified 'axioms' as practical Learning Organisational needs from my action research findings:

- The need for a staff team-based learning community - operating as an on-the-job practitioner team, interacting via Learning Conversations relative to the systems-based learning nodes.

- The use of IT in general curriculum support, operating as a conversational learning tool, enabling an individual's Capacity-to-Learn via use of Advanced Learning Technologies designed according to the S-O-L ILS Chat-to-Learn procedure.
- FLCs to adopt the 'Service Centre' paradigm, along the lines envisaged by DELTA, where community-based FDL targets are fully integrated into all college courses which have been developed so as to operate along FL/SOL lines, thereby integrating all categories of student-learner targets.
- FHE teacher training and staff development to be replaced with a new educational policy of enabling tutors as 'Systems Learning Managers', where, through active learning on-the-job, they can become both Learning Coaches and specialist subject-based Task Managers. Thus, FHE tutors working in a FL/SOL environment adopting a dual curriculum support role, developing special 'SOL-based' tutor skills so as to satisfy the duties required by both these Systems 7 learning nodes (see 'nodes' depicting the responsibilities required for both Learning Coach and FLC Task Manager in fig.(7.4)).

Finally, I would like to return to my earlier paradigms proposed in chapter 3, where I discriminated between organisational learning provision at the Human Resource Interface (HRI) level, and 'self-organised' provision at the Personal Resource Interface (PRI) level. I therefore propose to sum-up my thesis with a Kelly-type 'bi-polar' paradigmatic interpretation of the Systems 7 S-O-L environment.

This is where Systems 7 can be interpreted to support:

- either the HRI organisational paradigm as a 'macroscopic' social learning system operating *between* conversational human beings.
- or the PRI paradigm as a 'microscopic' social organisation learning system operating *within* the conversational personal being, i.e. the C-indi.

This interpretation of the personal being operating at the PRI level was discussed in chapter 3, where Miller Mair's 'Community of self' was used to describe inner social interaction - leading to the internal personal relationships paradigm proposed in figs.(3.1) & (3.4) as inner Learning Conversations.

I also disseminated in 7.1.5 my own finding that:

" ..most models and metaphors explaining how 'social systems' and 'learning processes' work are relative to both individual and organisation.. ..and.. ..that any sensible model or metaphor describing a social learning process is relative to both the person as a social being, and the social organisation".

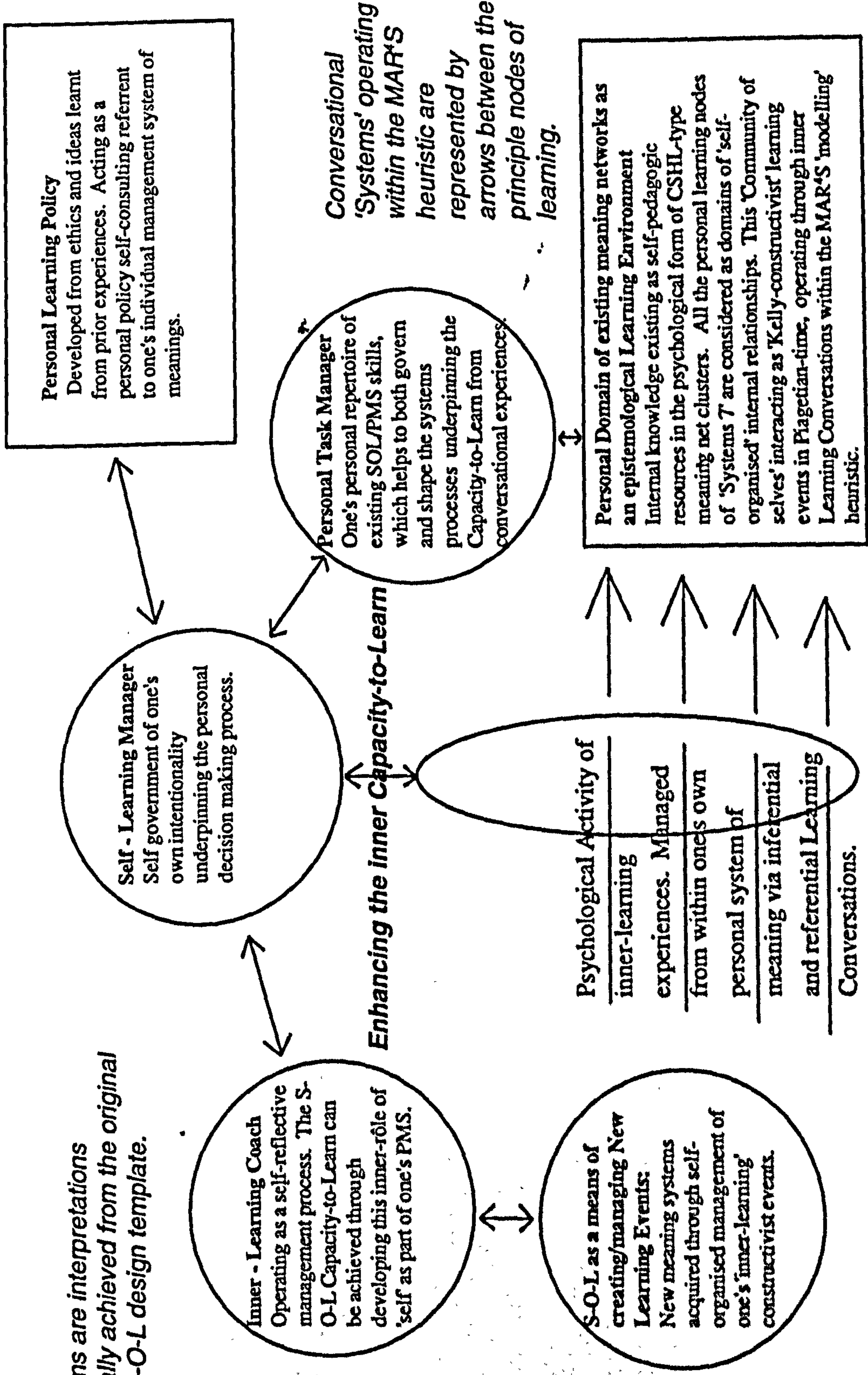
Harri-Augstein & Thomas also discuss¹² Mair's 'community of selves' in the context of describing Systems 7 as conversational functions going 'on in one head':

"It (Systems 7) can represent a 'community of selves' where all the functions go on in one head. It can represent a whole learning organisation where the 'learner' is many people and there are departments concerned with separating and running the various functions. The system can be controlled either by the human or machine 'tutor' or all functions are taken on by the 'learner' as insights and skills are acquired." (p.113)

¹²Taken from the article in Chapter 1 'Software for use in S-O-L environments : the practice of intelligent support' by Harri-Augstein & Thomas, published in:- 'Experimenting with Personal Construct Psychology', [Fransella & Thomas, 1988]

fig.(7.5) Proposed 'Systems 7' Personal Learning Organisational Paradigm for Conversational Individuals operating in Psychological Space

Both paradigms are interpretations conversationally achieved from the original 'Systems 7' S-O-L design template.



Thus, I have brought together all these ideas in fig.(7.5), where I have illustrated a proposed Systems 7 personal learning organisational paradigm for conversational individuals operating in psychological space. This 'model' synthesises all the ideas discussed throughout this thesis and represents, in my opinion, an ILS 'blueprint' from which to design IT-based conversational learning tools that help to enable the learner's 'inner-learning' conversational management system.

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