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DEVELOPING A LEARNING CONVERSATION IN STRUCTURED GROUP DISCUSSION:

ART STUDENTS' UNDERSTANDING OF THE PROJECT METHOD

&

POLYTECHNIC STUDENTS' EVALUATION OF THEIR COURSES

A Thesis submitted for the degree of Doctor of Philosophy

by

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January 1990

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ABSTRACT

This research began from a position within the physical science paradigm as a straightforward investigation into how Foundation art students thought the project method helped them to learn. The insights gained from their answers were later employed in designing projects for other purposes and for other discipline areas.

In order to accommodate the diverse and voluminous replies gathered from open-ended inquiry procedures, a system of categories was developed ranging from 80 sub-categories ascending through 10 to 3 principal categories. The three chief features of the project method which emerged as significant were those of inter-personal relationships, of project design and management, and of physical resources and environment. These three features provide important messages for the management of education at course and at institutional level.

From the experience gained in using the three-stage method of inquiry, it was concluded that raw personal views, given without reflection or debate, represent the narrowest possible version of individual views. For a rich, fully processed deep response, those views must have been exposed to discussion within the group. This structured group discussion was judged to be more than a mere process but rather a product with its own rationale and results, and one which provided a valuable educational experience.

This three-stage 'learning conversation' was then transferred into a new arena, that of course evaluation. The student consultation meeting has since become accepted practice within a Polytechnic as a means of conveying to the course team how students perceive their courses. Staff may in turn use the reports to strengthen their course design and delivery.

Finally, it was clear that a physical science paradigm with its goals of objectivity and detachment was not the true parent of this research activity. It was rather of different descent - from humanistic psychology, from action research in the social sciences and from the 'new paradigm' for human inquiry. These implications of paradigm shift are explored in the opening chapters.

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ACKNOWLEDGEMENTS

Every effort has been made to acknowledge the contributions others have made to this work - a comparatively straightforward matter when the influence has come from a published source.

But much of the thinking of this thesis was developed in conversation with others. These conversations took place in four main arenas.

The first arena was the Centre for the Study of Human Learning at Brunel University, and the conversations were held principally with Dr. Laurie Thomas and Dr. Sheila Harri-Augstein but also with many post-graduates students, with visiting speakers at CSHL seminars and with former post-graduate students.

The second arena is at Kingston Polytechnic and the principal influence has been my partner in the Educational Development Unit, James Wisdom. It is thanks to his powerful analytical and political sense that the student consultation meetings have become a flourishing and valued contribution to the course planning and validation process at our institution. Many of the refinements and practical details of the method we use originated from him.

The third arena is the network of colleagues active in SCED and in the Consortium of Polytechnics of London and the South-East Region. Principal names are Graham Gibbs (who first described his use of the pyramid method to evaluate courses at a SCED conference), Trevor

Habeshaw, Joanna Tait, Stephen Cox, Joyce Barlow and Chris Osborne. Dr John Shepherd, my partner in the FEU research project on *Staff Development for PICKUP: a manual of workshop materials* has spent a very great deal of time in deep conversation on educational matters on train journeys the length and breadth of England.

The fourth arena is the most intangible and goes back the furthest - to my parents, to my friends at the University of Melbourne, to the anarchist thinkers and writers I met on my arrival in London and in parts of northern Spain. My immediate family, my husband, children and many of our friends have also contributed to this broad conversation, one that has been on-going through a lifetime.

To all you good people I give heartfelt thanks.

Sally Richardson

What we call the beginning is often the end
And to make an end is to make a beginning.
The end is where we start from.

T.S Eliot 'Little Gidding' (Stanza V, lines 214-225)
Four Quartets, 1944

INTRODUCTION

The title of this research was initially expressed as 'Foundation students of art and design and the project method'. During the period covered by this research, major shifts of approach and attitude developed on a whole range of issues. It became necessary to signal these changes by the addition of an explanatory title 'Developing a learning conversation through structured group discussion'. This was done in order to inform a wider audience that there were implications beyond the world of art education and that findings had been identified relating to more than just the project method.

In particular the process of inquiry that had been developed with the Foundation art students proved to be so powerful and useful an instrument that a second outer layer of research developed around it. What had been designed as a research process was found to be an educational product with wide application. (An overview of all stages contributing to this research is given in Fig. 1a.)

A detailed list of the changes in emphasis are given at the outset so that the reader is alerted to their presence throughout the text.

MODEL OF THE RESEARCH PROCESS:

Principal activities which have contributed to this thesis.

- (6) ● Discover need for a new paradigm, reflexive, personal
- Reflect upon the nature of inquiry as a learning process.
- Reflect upon the relationship of the thinking of the group to the thinking of the individual.
- Reflect on the contribution of these insights to the teaching and learning process - e.g. the design and management of project work; the design and delivery of courses.

(1) ● Original idea:

Ask art students how they think the project method helps them to learn (small, tight, focused, local, phys.science paradigm)

(5) ● Consider how to use what has been learnt.

- How to report back to those most concerned?
- How to fuel development and change?.

(2) ● Use insights gained to design project for Foundation art students the 'intervention' project

(4) ● Use method of inquiry to discover from Polytechnic students "everything about your course that affects the way you learn."

(3) ● Use principles of project design derived from Foundation in project work with Science students

These shifts were movements away from :

- the physical science research paradigm
to
 - one believed to be more appropriate for human subjects, known as 'new paradigm research'

- consideration of strategic or instrumental influences on learning
to
 - a focus on the reflexive and interactive nature of learning - the 'learning conversation'

- the full implementation of repertory grid technique developed by George Kelly
to
 - a reduced and simplified version of it, achieving the same objectives less obtrusively.

- conclusions based on the sum of individual, private responses
to
 - conclusions based on the individual's responses after they have been thoroughly debated within the group.

- reliance on collecting and analysing quantitative data drawn from closed questions asking what the researcher wants to know
to
 - an interest in gathering, handling and reporting back qualitative data based on what the respondents want to tell.

- passing on findings to the academic and research community
to
 - using findings to fuel practical change and development in the educational community where the research is based.

Under each one of these broad headings there were other related changes in attitude and approach and these are described in detail later in the text.

The starting point of the research was a proposal to explore the project method through the eyes of students experiencing it as their chief medium of education. The students of Foundation Art and Design at Kingston Polytechnic were chosen to be the subjects of the investigation because their course was conducted entirely by the project method. (See Fig.1a for a description of the course published in the Foundation brochure.)

The Foundation students were consulted on three separate occasions during their one-year course and the three consultations were repeated with five successive year groups, each containing from 50-80 students. These consultations took place during the academic years from 1982-3 to 1986-87.

It was intended that by taking different bearings on the topic under scrutiny, and by repeating the same set of bearings for five successive years, valuable insights into how students understood their own learning process would be gained. From the findings it was intended to derive basic guidelines, to use these guidelines in designing and running projects, and to evaluate their success. It was

hoped as a result to be able to offer practical help to tutors in planning and conducting project work.

Three inquiries were held each year with the Foundation students. For convenience, the three occasions have been summarised on a chart, together with the questions that were asked on each occasion, and the number of students present in each case. This chart is repeated at several places in the text as a reminder of the overall operation of the research. (See Fig.2)

Inquiry I

In the first consultation (referred to as Inquiry I), the students completed a questionnaire which asked them to reflect on their experience of project work from a variety of different vantage points. A series of questions directed them to look back over their previous education and to describe those projects they remembered as the best and the worst in their experience. They were also to attempt a definition of project work and to comment on definitions proposed by others. They were also asked to consider various conceptual models of the project method and, if they could, to propose a more appropriate one for art and design.

In analysing, classifying and summarising the responses, several different sets of categories were tried in order to find useful ways

PROCEDURES FOLLOWED WITH FOUNDATION STUDENTS OF ART & DESIGN

A FOR INQUIRIES I, II & III INTO THE PROJECT METHOD

Inquiry I	Inquiry II	Inquiry III
■ Questionnaire I	■ Activities I & II	■ Questionnaire III
● Your definition of a project	■ Warm-up exercise: Self-taught and institution-taught subjects which you know best	● Rank items:
● Previous experience	institution-taught	Course design/
● Best project	subjects which you	peripheral factors
● Worst project	know best	
● Conceptual model of a project	■ Pyramid exercise: "How does the project method help you to learn?"	
	● individual list of items, rank;	● Any ways projects do not
	● small group discussion, borrow 2 items, re-rank	help you to learn?
	● plenary discussion, borrow 3 items, re-rank	

FIGURE No. 2 Procedures followed with Foundation students during Inquiries I, II & III into the project method.

of accommodating the many different points raised by the students. A wealth of description was generated by the question on best and worst projects and a category system was sought which could be used both for this material from Inquiry I and the answers to the question on projects posed in Inquiry II. Using the same categories would enable comparisons to be made.

Ultimately the categories identified were those of a 'learning conversation'. The choice of this term signalled that interactions were taking place during project work:

- between the students and other people,
- between students and the project system (or project design), and
- between students and the resources upon which they could draw for the project.

The category with the most frequent number of items mentioned, and with the items most finely differentiated, was that of interpersonal transactions. The students' replies indicated that personal interaction between tutor and students, and among members of the student peer group, together with a reflexive inner dialogue on their own progress were of chief importance in influencing the success of projects. In a universe in which they stood at the centre, the first interface was with other people and the transactions could be said to reside primarily in the affective domain.

The category which scored the second greatest number of mentions was that concerning the framework or guidelines of the project, the design of the project brief or task. This framework was described as if it had two seemingly paradoxical features: it had to be simultaneously open - admitting flexible imaginative and creative interpretation of the task - and closed - setting limits, deadlines and tight specifications that challenged ingenuity. The second interface could be said to involve transactions taking place primarily in the cognitive domain.

The third category contained items described in terms that were very broad in scope and implication - physical resources. These included the setting, the studio space in which the project work was conducted; the physical materials handled and used, the resource materials, both reference and illustrative, contained in the library. Significant mentions were made of the wider environment of the college as a whole, the local town, and the capital city. All these were judged to lie within a physical domain.

The rationale for the questions in Inquiry I and Inquiry II was that if the crucially important features of the project method could be clearly identified, it should be possible to design them into project work from the outset. Then, as institutions of higher education are under pressure to take in larger numbers of students, staff would better understand the mechanisms of the project method and be able to

adapt it to new demands more successfully. If one knew more clearly what worked (and what did not) in the project method, one could put together more efficient and more effective programmes of work. In recent years, the worsening staff-student ratio has spurred the search for more cost-effective teaching strategies accompanied by a desire to demonstrate that they are educationally sound.

Traditionally curriculum design has originated from the views held by staff. By consulting students who are on the receiving end of course design and teaching methods it was hoped that one would discover the features of the project that loom large to the learner, and thus be able to tailor the project to these learner requirements. This would be a move from the paradigm within which the teacher resided to one within which the student operated.

Inquiry II

The conduct of Inquiry II yielded the most significant findings of the research project. What was selected as a simple and straightforward process was discovered to be a very important activity in its own right and therefore a product. Since the start of this research, the technique has been used on more than 100 occasions, and has always been found both efficient and effective in achieving its aims.

On this second meeting with Foundation (referred to as Inquiry II), the three-stage 'pyramid' or 'snowball' exercise was used - a simple and popular technique in which questions are posed first to individuals, then discussed in small groups, and finally debated by the full group. This three-stage process is regularly used by Thomas & Harri-Augstein (1985, p.28-30) when they administer repertory grid materials to large groups in order to develop individual grids for each of the participants. (The work of Thomas and Harri-Augstein at the Centre for the Study of Human Learning, Brunel University, in refining and extending the repertory grid, designed by George Kelly is fully described in Chapter 1.)

With Foundation students, the process of eliciting was extended to include after each stage a straightforward ranking of items that had been generated. The design of this inquiry method was much influenced by the thinking behind the repertory grid technique, and the repeated ranking of items at each stage was designed to ensure thoughtful processing and the recording of individual decision-making during group debate. It served to anchor the views of the individual after these had been exposed to public discussion.

The technique involved a remarkable number of points of inner reflection or internal 'learning conversation'.

- The original listing of points is a dialogue with oneself. The first ranking done alone causes the individual to reflect again and to

discriminate further. (2 acts of reflection)

- When the individual joins with the group, he or she has something valuable to contribute, and does not sit silent, overwhelmed by others. In explaining their lists the individuals process their thoughts into words. In borrowing items that they recognise as expressing their views, they extend their own thinking, and re-ranking requires of them fresh discrimination (3 further acts of reflection)
- In plenary session, all present have opportunity to put forward their key points, to hear points made by others, to borrow 3 more items, and re-rank their list yet again (3 more acts of reflection)

Those 8 points are the 8 points requiring action. If one counts 'listening to others' as a prompt for inner dialogue, one could add all spoken contributions to the meeting to one's list, reaching a total of 20, 30 or many more prompts to reflection. The continual requirement to rank items anchors the decision-making in the individual and does not allow him to slip into a passive mode, excessively influenced by others.

In Inquiry II, one all-embracing question was posed: the students were asked to describe how the project method helped them to learn. This was a deliberate decision : no agenda or schedule of questions were set. One would not find out what learning might mean to students if one pre-empted their replies by focusing on what learning meant to the

researcher. (An informal warm-up or awareness-raising exercise was done first to stimulate student thinking on how they learned - on their own/in an institution.)

In order to study the degree of change of the original ideas through small-group to full-group consideration, a simple procedure was introduced. The students recorded on colour-coded squares of paper their first ideas, and then those ideas borrowed in the two subsequent discussions. At each stage, items were ranked on three ladders on answer sheets provided. The ladders enabled the researcher to trace each individual's ideas as they developed during the three-stage pyramid exercise, to discover to what extent individual ideas persisted through group discussion, and to what extent they underwent change. This movement, or development, was recorded on a 'stability/change' grid. (See Figs. 23, 24, 25.) The changes charted on the grid indicated that group discussion enriches the perceptions of the individual but does not eradicate strongly-held views. The first, second and third items were most likely to retain their original ranked position. Stability tended to diminish in direct relation to ordinal descent so that later observations were more prone to alteration and change.

It was clear that the three stages of processing that took place considerably developed the sophistication and depth of the students' understanding. The final plenary stage of discussion showed that

considerable refinement not only of ideas but of attitudes had taken place.

It was believed therefore that a process of inquiry had become an educational experience in its own right, a reflective tool benefiting the individual by providing a safe environment in which to share personal views and by permitting full participation in debate that moved toward unforced consensus. The pyramid exercise, in moving to the small group before expanding to the full group, allowed minority views to be strengthened and preserved, whereas they might otherwise be overwhelmed if first expressed by a lone individual in plenary session.

The plenary session made explicit and visible a consensus or shared view that was richer than anything that could be voiced by one individual, unprompted and unaided. By permitting individuals to borrow and rank items proposed by others, each individual was able to recognise and endorse a wider picture as truer for them than had been their original response, prepared in isolation. So this research concludes that the collection of raw, personal views on which the respondents have not reflected, (such as those obtained by questionnaire) represent the narrowest possible versions of individual views. For a rich, fully-developed, deep response those views must have been processed within the group.

It also concludes that the management of the group discussion is crucial to the quality of the thinking and debating that takes place. A heavy authoritarian style is not conducive to free discussion whereas a more neutral low-key approach does promote an appropriate atmosphere.

Inquiry III

On the third occasion (Inquiry III), after the end of their Foundation studies, students were shown a summary of responses made during Inquiry II in the first year of the research (1982-3). These responses had been assigned into 10 categories, and the 10 categories identified as referring either to course design or to other peripheral factors - an early category system that was eventually supplanted by the three categories developed for Inquiries I & II. The students were asked to rank supplied items: this was done in order to compare the views held at the completion of their course with what they had said when in the midst of their studies. This was the least satisfactory part of the research programme, but (on the grounds that one learns as much from failure as from success) welcomed for the insights it provided.

- Respondents were not interested in ranking items that they had not generated themselves, that had been summarised from another occasion, that they did not in any way recognise as their own.
- Students who had just completed their studies were facing outward from the institution, facing their future. At that point at the end

of the final year, they did not respond to any questions, or evaluative activities, that asked them to look back.

Course Evaluation : The Student Consultation Exercise

As has already been stated, Inquiry II was judged to be the most significant activity undertaken during the research with Foundation students. The pyramid exercise, as a quick, flexible and robust instrument, was therefore deemed a suitable method to employ for a more ambitious and more comprehensive purpose - to investigate students' perceptions of their course, as part of the Polytechnic rolling programme of course evaluation, prior to revalidation. The transfer of the inquiry method to a new and more public arena was thought to be both a result of the research in its own right and a further test of that result.

In operation, the pyramid method has much greater simplicity than the full-blown repertory grid, which can be daunting and time-consuming to explain and administer. One of the features of this hybrid pyramid/repertory grid is a simplified procedure for the repertory grid technique's formal process of identifying elements, discovering the constructs they imply, and rating the elements on a scale to show how strongly they relate to the construct. This is time-consuming to explain and to administer. However, the hybrid version seeks to

preserve the spirit of the repertory grid with the requirement to rank at each stage. Ranking is not normally a feature of the pyramid or snowball exercise, though Jaques, (1984, p.92) recommends "a sequence of increasingly sophisticated tasks. . .". The ranking stage is performed within the small groups as they debate each point in turn that has been raised by its members. The group is asked to "compile a common list, with the points arranged in order of importance, the most important listed first." The requirement to rank ensures that each individual is engaged upon an internal dialogue, a 'learning conversation'. It ensures reflection, and reflection is a second-order activity, an activity at one remove from the simple giving of one's opinion, or describing of one's experience. (See Fig.3 for a summary of the procedure, and Fig.4 for a comparison of the two interview activities, with Foundation students and with Polytechnic students.)

It was concluded from the extensive use of this method with all the year groups of more than 30 degree courses that the snowball or pyramid encourages a 'learning conversation' - a process of inquiry which yields information both finely differentiated and profoundly understood by the interviewees. Because of the educative nature of the group debate, conclusions reached show a high level of sophistication and insight and therefore have something truly useful to offer to staff. The resulting reports showed that student understanding of, and insights into, course design and delivery are not inferior to those of staff. The students manifest a strong wish

POLYTECHNIC STUDENT COURSE EVALUATION

PROCEDURE FOLLOWED AT STUDENT CONSULTATION MEETING

■ Pyramid exercise:

■ " We are interested in everything about the course
that affects the way you learn."

- Individuals list good features to preserve/
bad features and how to change them for the better
 - Small groups compile common list;
rank items in order of importance
 - Plenary discussion;
all items debated in turn and recorded on OHP.
- Report written, based on running record agreed by meeting.

PROCEDURES FOLLOWED WITH FOUNDATION STUDENTS
DURING INQUIRIES I, II & III INTO THE PROJECT METHOD

Inquiry I	Inquiry II	Inquiry III
<ul style="list-style-type: none"> ■ Questionnaire I ● Your definition of a project ● Previous experience ● Best project ● Worst project ● Conceptual model of a project 	<ul style="list-style-type: none"> ■ Activities I & II ■ Warm-up exercise: Self-taught and institution-taught subjects which you know best ■ Pyramid exercise: "How does the project method help you to learn?" <ul style="list-style-type: none"> ● individual list of items, rank; ● small group discussion, borrow 2 items, re-rank ● plenary discussion, borrow 3 items, re-rank 	<ul style="list-style-type: none"> ■ Questionnaire III ● Rank items: Course design/ peripheral factors ● Any ways projects do not help you to learn?
<p>PROCEDURE FOLLOWED AT STUDENT CONSULTATION MEETING</p> <ul style="list-style-type: none"> ■ Pyramid exercise: " We are interested in everything about the course that affects the way you learn." ● Individuals list good features to preserve/ bad features and how to change them for the better <ul style="list-style-type: none"> ● Small groups compile common list; rank items in order of importance ● Plenary discussion; all items debated in turn and recorded on OHP. ● Report written, based on running record agreed by meeting. 		

FIGURE No. 4 Table to enable comparison of two procedures:
 1. that followed with Foundation students for Inquiries I, II & III into the project method.
 and
 2. that followed with Polytechnic students at consultation meetings to evaluate their course.

TABLE OF COMPLETED RESPONSES BY FOUNDATION ART STUDENTS

1982 - 83	47	29	20
1983 - 84	74	44	-
1984 - 85	60	13	4
1985 - 86	64	6	6
1986 - 87	65	44	22

FIGURE No. 5

Numbers of Foundation students taking part in
Inquiries I, II & II over all years.

PROGRAMME OF STUDENT CONSULTATION MEETINGS 1986-89

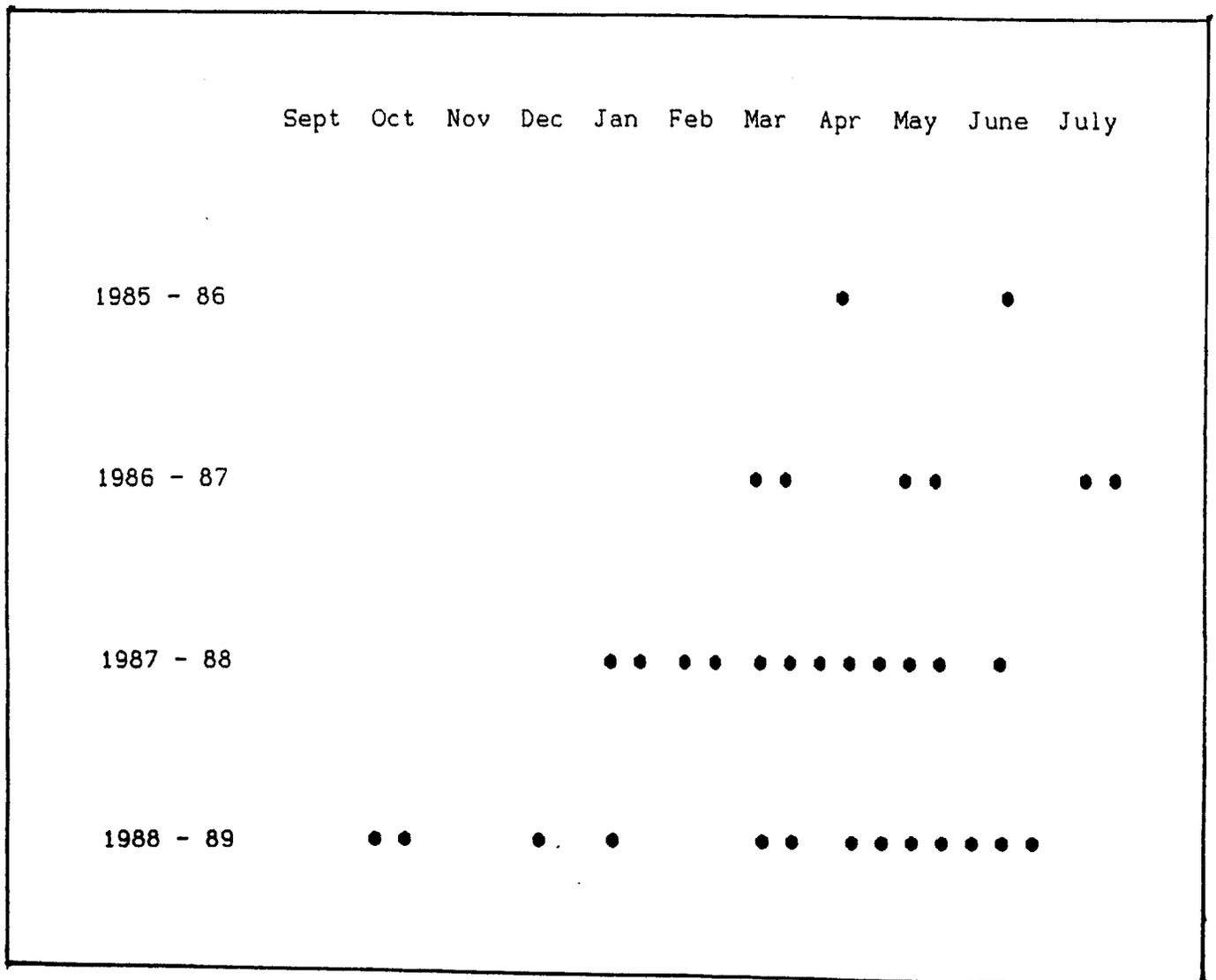


FIGURE No. 6 Programme of student consultation meetings for the period 1986-89.

TABLE OF INQUIRIES WITH FOUNDATION STUDENTS

OVERLAID BY

PROGRAMME OF STUDENT CONSULTATION MEETINGS

	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July
1982 - 83	47					29				20	
1983 - 84	74					44				-	
1984 - 85	60					13				4	
1985 - 86	64					6				6	
1985 - 86								•		•	(2)
1986 - 87	65					44				22	
1986 - 87							• •		• • •		• • (7)
1987 - 88					•	• •	• • • • • • • •			•	(12)
1988 - 89		• •		•	•		• •	• • • • • • • •			(13)

FIGURE NO. 7.(a). Timetable of inquiries with Foundation students overlaid by the programme of student consultation meetings.

for an education of high quality and have many thoughtful and useful suggestions to offer as to how this might be best achieved.

The substantial number of courses that have been explored through this procedure, the reports written and handed on to Course Leaders, provide a detailed description of British higher education from the viewpoint of its consumers.

The reporting back of the issues raised by the students has posed many problems and challenges. The report is in itself a system for analysing, classifying and summarising the issues. Just as the students stand at the centre of their universe and look outward to see all those who, in their eyes, deliver their learning opportunities, so the staff stand at the centre of their universe and expect to read a report that has been translated into their perspective. The report has therefore to effect this transition and to interpret the students' views so that they can be received by staff. There are delicate problems of protocol and diplomacy: for example, how to treat complaints that censure individuals, how to ensure confidentiality, how to couch recommendations so that they are most likely to bring about the desired changes. The reporting process in the world of polytechnic institutional and personal politics was a part of a specially adapted categorisation and communication process, and therefore deserved a recognised place as a key phase in the research cycle.

Developing Appropriate Category Systems.

As described in an earlier paragraph, the categories finally adopted for responses collected in both Inquiry I and II drew on the concept of the Learning Conversation developed by Dr. Laurie Thomas and Dr. Sheila Harri-Augstein. In the learning conversation, emphasis is placed not on actions but upon interactions. By focusing on interactions, one is focusing on the process of reflection, the process of considering, discriminating, judging and evaluating one's thoughts and actions. It raises the level of thinking to a higher plane (or, to a meta-level), a form of 'boot-strapping' that is profoundly educative. It is also 'self-organised' in that it lies within the control of the learner rather than within that of the teacher. It is a transferable process that can be applied across the board: it is 'content-free' in that is not attached to any particular knowledge base.

The categories of a learning conversation identified in the Foundation responses were framed in the students' own words. The original wording was not concealed behind paraphrasing or summarising. These original words and phrases used by respondents have been quoted extensively, and are retained in an appendix for future researchers to examine and explore for whatever new purposes these responses might serve. However, as long as the original words do remain accessible somewhere, some form of summarising is essential, and in different degrees of simplification - in order to make visible both 'the wood' and 'the trees'.

It was believed that several factors affect the nature of the reporting back of these findings. The position of the audience in relation to the respondents dictates both the degree and the nature of summarising that needs to take place. The closer to the respondents the receiving audience is, the more it needs to know, the more detail it can absorb. But the further the audience is from the respondents, the more generalisation and abstraction, drawn in broad brushstrokes, is required. For this reason, a whole series of reporting back systems were developed, and still others envisaged, ranging from verbatim typescript of all individual responses, through to formal reports with sub-headings signposting the text, to thesaurus counts, to the finely differentiated categories of the 'learning conversation', and ultimately to the three over-arching, all-embracing categories of interactions between 'people', 'people and systems' and 'people and resources'.

A second factor is the purpose the audience has in hearing the information gained from the investigation. In some cases the message may be rejected, parts of it may be selected in and parts selected out or discounted.

A bridge therefore has to be built that allows information drawn from the centre of the students' perceived world to cross over and be received by staff at the centre of their perceived world. The nature of that bridge can be a shared purpose; that shared purposes could be

(and perhaps should be) a shared ownership of the course. If the nature of the course were debated in course meetings (attended by all concerned - students, teaching staff, librarians, technicians, secretary) it would be possible to develop a sense of shared ownership and common purpose. This would allow messages to be sent and received freely across the bridge without distortion.

Quantitative and qualitative analysis of data
gathered fromn Foundation students.

The project method is one of the most comprehensive of educational activities, involving many different features and many different stages, and permitting a wide range of learning styles to co-exist. Therefore one would expect a very large number of different features to be singled out for comment and it would need a wide net to get a reasonable measure of the total scope of a project. But the fine detail contained in student comments means that the net also needs a very fine mesh to let nothing of value slip through. This dual requirement had implications for the formation of categories and for the different degrees of summarising that were envisaged.

The delivery of a whole course is a similarly comprehensive undertaking and also requires a broad but fine meshed net to evaluate it. For this reason the method developed with Foundation was chosen

for use across the Polytechnic as part of the process of course evaluation. It was significant that both the project method and the customary polytechnic course made up of many subjects are in themselves wholes. A modular course, which is a different experience for each group of students (except for those choosing the same set of subjects), could not bring together a group of people who had experienced the same course in common.

In both of these two cases, for the project and the course, the purpose of the investigation was to fuel improvement and change. The investigation was not designed to measure success or student satisfaction. Nor were they comparative studies in which one project or course was being compared with another.

For this reason, it was not judged necessary, or even appropriate, to pursue statistical or quantitative approaches to any great level of sophistication. The counting of the items mentioned was more of an art than a science. The items varied enormously in size and therefore the number of mentions cannot bear any kind of statistical analysis. Only two distinctions were made when deciding what constituted a single mention or item: whether it was finely differentiated or broadly differentiated. The tables showing the distribution of items mentioned according to the three categories and many sub-categories are no more than indicators, stepping stones on the way to discovering broad underlying themes, themes which could only be detected after a

degree of summarising or clustering had taken place. Three principal categories were identified:

- the interpersonal/communicational/affective domain;
- the project/course design/delivery/system/cognitive domain;
- the resources/setting/environment/physical domain;

These conclusions were as much a result of thinking as of counting.

But a great deal of counting has been done. Its chief purpose has been to condense the vast quantity of data into an ever decreasing number of categories, the better to see informative patterns emerge. (See Figs. 12, 13, 14, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26 for a selection of the tables used to condense the information into a manageable and comprehensible form.)

The only part of the research which lends itself satisfactorily to statistical analysis is the stability/change grid. Here nothing qualitative is being measured, simply the changes in ranked position of the individual items or elements on the three ladders. Here the quantitative approach makes visible the relative durability of original vs. borrowed ideas, in a way that a qualitative or descriptive approach could not. (See Figs. 23, 24, 25.)

Apart from these stability/change grids, the tables and charts should be regarded as visual representations or models, as metaphors for what is being expressed.

However, the wish for number is everywhere present in our society, and particularly so in higher education at present, with the call for performance indicators. But the collecting of numbers can distort the very process it is intended to monitor. Many questionnaires do not contain the questions that need to be asked, but only those than can effectively be answered (framed in the terms supplied by the inquirer and counted for the purposes of the inquirer, not for any purpose of the respondent).

This research seeks to blend:

- a process of open interview through structured group discussion
- appropriate techniques for dealing with the material thus generated, and
- ways of reporting back targeted messages to those concerned.

The Paradigm Shift

During the period of the research, particular attention was paid to the theory and practice of human inquiry, and to the role played by the questioner in such inquiry. This research project originated from within the physical science paradigm but was adapted during its course to embrace a different philosophy. The new paradigm accepted that all observations were relative, provisional and subjective. Therefore the most useful stance was to allow for this provisionality and subjectivity in the inquiry method. This paradigm shift took place initially in relation to the questioning procedure used with Foundation and an intervention (such as is found in action research) was designed to take place in the final year (1986-7) in order to restore the quality of the relationship between the researcher and the Foundation students. It was hoped by this intervention to improve the quantity and the quality of the Foundation responses, to improve their attendance at the group session (thus increasing quantity) and to promote a sincere and serious consideration of the question posed (thus improving quality). The shift away from the experimental physical science paradigm permitted, for example, the changes in student thinking that took place during each of the three stages of the pyramid exercise to be viewed as welcome evidence of development and improvement of original ideas, rather than a dilution (or corruption) of individual first responses.

Within the period covered by the research, however, the paradigm shift was not complete: the vestigial remains of the earlier experimental design can be seen in the repetition with Foundation students over five years of procedures devised at the outset, with no very good reason for repeating them in such an identical manner. Another relic of the scientific method is the retention by the researcher (for her own purposes) of the insights into project design gained from the Foundation replies. In fully articulated action research such insights would have been passed on to those who most needed to know them - the Foundation tutors.. However, the insights into project design were used and tested by the researcher, once with Foundation when it became the vehicle for the intervention in 1986-7, and also with students of Applied Physics and Applied Chemistry in the projects on 'The Social Application of Science'.

However it was only with the move into course evaluation that regular reporting back to those responsible for designing and delivering courses became established as part of the cycle.

The Research Project as Action Research

The research carried out for this thesis was conducted in a series of action research feedback loops. Findings at one level were tested at another level, or in a different field. Findings at an outer level had implications for the core. The students themselves, far from

being neutral and detached, learned from the experience of being questioned so that the inquiry became an educational activity in its own right.

This complexity, layering and inter-relationship via feedback loops is characteristic of action research (Lewin, 1947) and of the already mentioned 'new paradigm' for human inquiry (Reason & Rowan, 1981), fully described in a later chapter.

To sum up the route taken by the research: an investigation with Foundation art and design students into how the project method helped them to learn led to a scrutiny of the processes of human inquiry.

This simple inner core was extended in two directions. The principles of project design were used in the design of other projects. The pyramid method was used with student groups to evaluate their courses. A method, activity or process became an instrument, tool, and ultimately a product. (See Fig. 1a)

This introduction has sought to describe the way in which an investigation into how Foundation Students of Art and Design learn through the project method came to acquire significance for a wider audience, one interested in developing a learning conversation through structured group discussion.

DEPARTMENT OF FOUNDATION STUDIES DESIGN

First Term

The first term is conceived as a general course that aims at introducing students to the various disciplines and modes of thinking embraced by the four chief areas of study — Fine Art, Graphics, Three-dimensional Design and Fashion/Textiles. Students, whatever their initial preference for any one area of study, are expected to keep an open mind, and will work in mixed groups with fifteen as an average number.

During this period, a student's individual abilities are developed, assessed and directed, every effort being made through project work and personal advice, to give the clearest possible picture, not only of the training involved on a degree course, but also some idea of the reality of the professional world outside.

The Foundation course begins a fortnight earlier than the rest of the Polytechnic, and there is a correspondingly shorter summer term.

The timetable is so arranged that in any one week each group works on two contrasting projects. For example, Monday and Tuesday may be concerned with printmaking, and Thursday and Friday with sculpture.

Each discipline has as its focus a project set by the tutor responsible for the group and lasts six full days, finishing with a criticism and group discussion in the last period.

During a project period, each student's folio of work is seen by the tutor and discussed with the student. The tutor is also required to write a report that comments on the student's general attitude to his work and the course, the folio of work to date, and the project just completed. In this way, there is a continual assessment of a student's development throughout the year.

Drawing from nature (objective analysis as well as creative drawing in various media) runs parallel with projects covering printmaking, painting, sculpture, graphics, 3D, fashion and textiles. Individual projects are designed to develop the understanding, appreciation and use of a wide variety of materials, traditional and new, in the building of structures in relief and three dimensions, including casting, modelling, assemblage, welding, vacuum forming, and when necessary the use of power tools and machines. The latter may be used in the general workshop under the supervision of the two full-time technicians.

The workshops also provide opportunities for sandblasting, etching, fusing and bonding glass of all descriptions.

Towards the end of the term, each student will be given a tutorial involving at least two members of staff. This is to review the work done so far, general counselling and the planning of an individual second term timetable.

Throughout the first two terms, a series of short courses in the form of evening classes are given in photography. Instruction includes the correct use of the camera, developing a film and printing and enlarging.

Wednesday mornings are given over to Complementary Studies.

Wednesday afternoon is a personal study period. Life drawing will be available and the general workshop will be functioning. This period can also be used for visits to exhibitions in the London area.

Second Term

Based on the tutorials at the end of the first term, students will have chosen a programme of study that will prepare them for a degree course application. Although the projects selected may be biased towards a particular area of study, tutors will encourage students to keep the wider view and not acquire a label too soon. We would like potential fashion designers for example, apart from their fashion programme, to work with tutors concerned with fine art, graphics and 3D throughout the term.

Fine Art

Work in the area of fine art will include painting, sculpture, printmaking and the use of mixed media. Drawing, approached as a way of developing perceptual as well as conceptual ideas, is seen as the linking thread. Within the limits set by the projects a student's own imagination and individuality is encouraged, and is the groundwork of the stress laid on personal work, especially in the third term.

Slide talks by both staff and students are used to discuss the themes, nature and philosophy of art, and this is supplemented by visits to current exhibitions of particular interest.

Graphics

Projects in this area will all be directly concerned with aspects of visual communication. Design in both two and three dimensions involves creative and analytical drawing, as well as acting as an introduction to letterforms, symbols, illustration, photography, layout and presentation. Visits will be arranged to museums and other places of interest to discover subject matter and information.

SECTION ONE : THE THEORETICAL BASIS FOR THE RESEARCH

CHAPTER 1. INFLUENCES DURING THE INITIAL PHASE OF THE RESEARCH

This chapter describes the background from which this research emerged, in particular the influences which governed the shape of the initial proposal. These included the theories and practice of George Kelly and Carl Rogers, and of Don Bannister in carrying forward the work of Kelly. Laurie Thomas and Sheila Harri-Augstein at the Centre for the Study of Human Learning, Brunel University, with their theory of 'self-organised learning' and the techniques for developing the 'learning conversation' are leading exponents in this country of Kelly's Personal Construct Psychology in relation to education and training.

During the research period, key influences were the work of Laurie Thomas and Sheila Harri-Augstein (Centre for the Study of Human Learning, Brunel University) with their 'conversational' science of human learning. This was directly related to the psychological theory and the many specific techniques set out by George Kelly in *The Psychology of Personal Constructs* (1955), and the development of and popularisation of Kelly's work by Don Bannister and Fay Fransella in *Inquiring Man*, (1971).

• GEORGE KELLY

George Kelly in his *Psychology of Personal Constructs* designed a psychological theory that focused on the whole person and saw every

aspect of that person as interconnected and interrelated - one could not talk about mind, body, memory, personality as separate entities, or as if those entities obeyed universal laws. One had to acknowledge that a person had, so to say, 'invented' himself and faculties therefore such as his behaviour or his thought processes could be only be understood in the light of his 'thesis' of himself.

. . .the ultimate explanation of human behaviour lies in examining man's undertakings, the questions he asks, the lines of inquiry he initiates and the strategies he employs, rather than in analysing the logical pattern and impact of the events with which he collides. (Kelly, quoted in (Bannister and Fransella, 1971, p.61 in 3rd edn, 1986).

It followed therefore that members of society who reacted in similar ways only did so because they 'construed' in similar ways, not necessarily because they had similar histories, or occupied similar social or economic positions. There were many pressures on members of society to construe in similar ways - from the media, from political persuaders, from the upholders of tradition. Similarly siblings might construe their family environment very differently from one another, and thus react in sharply differing ways: or they might construe along the same lines, in which case they would seem to observers to be more similar to one another. As in society, so in a family parents bring up their children with pressure/persuasion to construe within a given framework.

George Kelly postulated that man was essentially a scientist experimenting through the medium of his own life, testing his constructs as he enacted them, modifying and adapting them according to his reading of how they worked for him in practice. This theory implied as many different psychologies as there were individuals willing to reflect on their experience. Personal construct theory therefore offered a 'psychology of the psychologies' that would embrace all that was already offered by way of construing the human condition, and all that might subsequently be offered.

A second important emphasis by Kelly was an acceptance that if we wanted to know something about someone, we should ask him, and not some expert to answer on his behalf. (The expert is after all only another personal scientist with a unique set of personal constructs, which may or may not be helpful ways of interpreting the client's needs.)

For the purposes of this research, the most significant part of Kelly's writing was his development of tools or instruments to explore what meaning individuals attached to the personal experiences of their life. It was only by reaching this second or meta-level of interpretation, of assigning meaning, that one could transcend the collection of random experiences that make up individual lives and discover what pattern they have woven for themselves from the strands.

Influences during the initial phase of the research ● George Kelly -

Kelly's central statement about the nature of the psychological process was as follows:

A person's processes are psychologically channelised by the ways in which they anticipate events. (quoted in (Bannister and Fransella, 1971, p.7 in 3rd edn 1986).

The central activity of all human beings is to anticipate events and they do this by interpreting - attributing meaning to - past events. In this respect people are all scientists discovering and making sense of their own world. They are deciding how to act as their life drama unfolds, writing the plot, the dialogue, choosing and even inventing the cast of characters assembled for the duration. Of course we as individuals star in our own production (even if only as Cinderella...). Most importantly, the central actor decides what title this play is currently bearing, and what are the themes with which it is most profoundly concerned. If he is aware that not only is he within the drama, but able to stand outside it, he can exert the powers that reside in him as writer/director/producer, and - if he wishes - call the whole thing off and write a different play with a new ending.

From this theory, several things follow:

- that if you want to know what someone thinks, ask him. He is the 'scientist' and only he knows the answer. In Kelly's words "he *may* tell you".
- that the means by which the 'scientist' explores and explains his world is by reflecting on it. As this reflexivity is his chief tool any activity that promotes, enhances and encourages reflexivity will improve the power of the individual to make sense of his world and to act effectively in it.
- that each individual is at the centre of his own universe and perceives from this vantage point at the hub.
- that allowance must be made for this hub position when communicating with others because others will occupy the central position of their universes. Therefore a bridge will have to be built to allow the centres to enter fully into each other's meaning.
- that the interaction of the group is the simultaneous activity of its members bouncing ideas and responses (including non-verbal ones) off each other in order to define, refine and expand and extend their own understanding.
- therefore group activities are an important tool (sometimes the chief tool) in expanding and increasing the individual's ideas. Techniques for working with groups should be designed to promote - and not to inhibit - this development.
- this public process of raising the level of debate among individuals also works towards an unforced consensus. The

Influences during the initial phase of the research • George Kelly -

discussion creates bridges which enable individuals to enter into the meaning system of others and to empathise with them.

Of Kelly's eleven 'corollaries' which elaborate the central proposition, one particularly relevant to this thesis is the dichotomy corollary :

Dichotomy corollary: a person's construction system is composed of a finite number of dichotomous constructs (Bannister and Fransella, 1971, p.12 in 3rd edn, 1986).

This corollary states that we never affirm without - even if implicitly - denying. When performing Kelly's Repertory Grid Test, the subject identifies key events (or people) and considers them in groups of three. He then states ways in which two items are the same and one is different ('odd one out') in the meaning that they bear for him. The dichotomy thus identified is therefore a private psychological one, not a public logical one. For this reason, all offering of agendas or schedules of questions to groups falls into the central error of assuming the answers will fit into an inquirer's public, shared, logical construct system. In fact, there will be as many different frameworks of meaning in the group as there are people. Unless this difference is catered for and built in to the process any findings will be suspect and not what they purport to be.

Though contrast poles are established, events do not have to reside at the extreme points of the poles but may be placed at scalar points along them. In a later stage of the repertory grid, all elements may be plotted against all dimensions as a way of discovering what interconnections exist with that construct system for that individual. In the repertory grid this is done by rating; in the work with Foundation students in this research project, it was done by ranking.

Three further corollaries of Kelly's are of particular interest when discussing the relationship of the individual to the group.

Individuality corollary: People differ from each other in their construction of events. (Bannister and Fransella, 1971, p.10 in 3rd edn, 1986)

Commonality corollary: To the extent that one person employs a construction of experience which is similar to that employed by another, their processes are psychologically similar to those of the other person. (Bannister and Fransella, 1971, p.17 in 3rd edn, 1986).

Sociality corollary: To the extent that one person construes the construction processes of another, they may play a role in a social process involving the other person. (Bannister and Fransella, 1971, p.18 in 3rd edn, 1986).

The understanding and insights promoted by the use of the repertory grid system were greatly valued in this research. During the first year (1982-3) on several occasions full-scale repertory grids were completed with individuals and with small groups of volunteers.

These trials are described in the following paragraphs. But after the trials were completed, it was felt that the time spent explaining the working of grid to a very large group (60 plus) would give too great an emphasis to the tools of the researcher and deflect attention away from the topic under discussion. A complex technique also gave the researcher undue power and apparent ownership of the inquiry process. Therefore ways were sought in which the spirit of construct psychology could be preserved, and the benefits of the repertory grid retained, but in a simplified and streamlined form that did not distract respondents at the moment of putting their thoughts into words.

TRIALS OF THE REPERTORY GRID

In order to test the repertory grid as a suitable instrument to use with Foundation students, it was used on separate occasions with 12 students, and with two fellow members of staff.

The repertory grid sessions were offered to final year students of the Modern Arts & Languages degree as a way of bringing into focus their strengths, their likes and dislikes, with regard to their choice of future career. Twelve students accepted the invitation to take part in the sessions. The repertory grids were used with students either on their own (3 individual sessions) or in small

Influences during the initial phase of the research ● George Kelly -

groups (3 sessions with 3 students in the groups). The purpose in each case was to find out what sort of jobs they, as graduates with a background in the Humanities, were best suited to and might enjoy.

It was suggested that they use as elements ten examples of personal experience of work or jobs that they had taken part in over the past five years. It was suggested that they might find it helpful to think of their five best experiences and their five worst experiences as it might prove more fruitful to look at both positive and negative features side by side.

These ten learning events were then looked at in sets of three to consider in what way two were alike and one different. This consideration elicited what meaning each work experience held personally for that student. The ten elements were usually chosen quite quickly - in about 15 to 20 minutes. However the second stage - of eliciting the constructs - took very much longer, at least 30 minutes and sometimes much more.. Then additional time was needed to complete the grid itself and this usually necessitated a second appointment on another day, if not to complete the grid, then certainly to talk through the patterns that emerged from the completed grid.

Influences during the initial phase of the research....● Carl Rogers -

● CARL ROGERS

Carl R. Rogers first reached a wide audience with the publication of *Counseling and Psychotherapy* (1942). A work that has particularly informed this thesis is *On becoming a person: a therapist's view of psychotherapy* (1967). In the opening chapter, 'This is me: the development of my professional thinking and personal philosophy', he describes what he has learnt from a lifetime of client-centred counselling and therapy.

In my relationships with persons I have found that it doesn't help, in the long run, to act as though I were something that I am not. (Rogers, 1967. p.16).

That is to say, don't falsely act roles, suppress reactions, hide responses.

I find that I am more effective when I can listen acceptantly to myself and can be myself. . . . Acceptance leads to change . . . (Rogers, 1967. p.17).

Rejection of what one is oneself can block personal growth and change.

I have found it of enormous value when I can permit myself to understand another person. (Rogers, 1967. p.18).

Letting go of oneself enables one to enter more fully into an understanding of another person.

The twelve students were without exception very impressed with the power of the grid technique to interpret their own life and work experiences in a way which made sense to them. However, even given this positive attitude, the repertory grid seemed to stretch the students to the limits of their attention and concentration. Description and explanation seemed to take up an disproportionate amount of time. So this experience of administering the grids suggested that the formal, full-scale repertory grid would take too long to work through with a large group of students (60 - 80 students were enrolled in Foundation annually). Perhaps the explanation of how the grid functioned could be reduced very drastically? This idea was rejected because a thorough understanding of the grid was deemed essential if it was to succeed.

As the Foundation students would be pursuing the goal of the researcher, time spent explaining a complex technique before getting to the purpose of the meeting might alienate members of the group and and dissipate its concentration.

For this reason a modification of the repertory grid test was sought. Instead Foundation students were asked to rank their ideas on three successive occasions during the group discussion. This requirement was judged an effective although very much simplified version of completing a repertory grid.

Influences during the initial phase of the research....● Carl Rogers -

I have found it enriching to open channels whereby others can communicate their feelings, their private perceptual worlds, to me. ((Rogers, 1967. p.19).

Rogers offered 'reaction sheets' to his students so they could express at the end of a class what it had meant for them. This showed him how diverse were the reactions to his classes and he learned from that diversity.

I have found it highly rewarding when I can accept another person. (Rogers, 1967.p.20)

What is most personal is most general. The most unique inner experience is what has most resonance for others. (Rogers, 1967. p.25.)

The more open I am to the realities in me and in the other person, the less do I find myself rushing in to 'fix' things. ((Rogers, 1967.p.21)

The more Rogers keeps to this openness, the more change seems to be 'stirred up' in the client. The client thus owns the changes generated within him.

I can trust my experiences. . . Total organismic 'sensing' is worth more than the dictates of the intellect." ((Rogers, 1967.p.22).

"Experience is, for me, the highest authority . . . and the more it is primary, rooted in direct experience, the more it is authoritative." (Rogers, 1967. pp.23-4).

Here Rogers is acknowledging the primacy of experience. But there is an important second stage, of making sense of that experience.

I enjoy discovering order in experience. (Rogers, 1967.p.24.)

Influences during the initial phase of the research....● Carl Rogers -

The facts are friendly: evidence always leads one closer and closer to what is true. (Rogers, 1967.p.25)

Working with people always, for Rogers, holds the possibility of change, of growth, of improvement.

Life, at its best, is a flowing, changing process in which nothing is fixed. (Rogers, 1967.p.27)

It has been my experience that persons have a basically positive direction. (Rogers, 1967.p.26)

Each of these insights, drawn from Roger's lifetime of experience, is a paradox, a bringing together of seemingly antithetical and contradictory concepts: the more himself, the more other; the less control, the more effect; the more rooted in individual experience, the more resonant for others.

Rogers has noted the two planes on which research is conducted:

Therapy [is] an experience in which I can let myself go subjectively. . . . Research is the experience in which I can stand off and view this rich subjective experience with objectivity. (Rogers, 1967. p14.)

All these deeply held personal and professional beliefs centre on listening to what the client has to say. This develops the 'locus of control' in the client/subject/student and prevents it from residing

Influences during the initial phase of the research....● Carl Rogers -
in the therapist/researcher/teacher. The ultimate skill of the
therapist is to allow that transfer of control to happen, and to
foster its growth. This same transfer is precisely what the educator
is after - to allow the learner to become empowered.

PAGINATION ERROR

Pg 37.

THOMAS & HARRI-AUGSTEIN

Don Bannister writing in the foreword of *Self-Organised Learning*

(Thomas & Harri-Augstein, 1985, p.xxiv) states:

The central model of learning is the conversation - perhaps our oldest, richest and most practical human way of learning. In using this model, they [Laurie Thomas and Sheila Harri-Augstein] cast light on much of the everyday yet somehow mysterious experience we have of conversation, including its dual nature. We reflect to ourselves as well as exchanging with others so that two conversations, one internal and one external, seem always to be taking place.

The sections which follow have been chosen to convey the way in which the essential components of the original ideas of George Kelly have been extended by Laurie Thomas and Sheila Harri-Augstein. The principles of a conversational science were outlined by Laurie Thomas at public seminar at Brunel University in 1989 (Richardson, 1989). The restrospective nature of this summary, including the insights of more than two decades, provide a useful overview of the subject.

1. The conversation enables all meaning to be related to all other meaning. When engaged in a conversation, the communicating parties are engaged in a common endeavour.

2. The conversation is a process whereby meaning is negotiated: the construction of significant, relevant and viable meaning takes place. . . . The learning conversation allows people's thoughts, feelings and perceptions to be encompassed. The result is the spontaneous generation of meaning in another person.

3. The methods of the conversational science express the knowing of it. There is a symbiotic relationship between the method and the ideas. . . .

The 'conversational being' has an inner conversation with himself, and an outer conversation with the community. The inner conversation allows free expression for that 'community of selves' within us.

4. The learning conversation offers insights into all other forms of scientific inquiry. It can be the tool by which sciences re-negotiate their meaning with other sciences. The sciences could begin to relate more profoundly to one another. It also offers fresh insights into other kinds of learning inquiry. . . . The learning conversation models the process, or indeed is the process, by which learning takes place.

5. The learning conversation offers people the opportunity to self-organise their own change. To self-organise one's own change is to define one's own freedom.

Influences during the initial phase of the research

● Thomas & Harri-Augstein -

In their book, Thomas & Harri-Augstein (1985) show how strong is the link between models of learning and models of teaching, even if that link is often not understood by practising teachers. This classical belief that "theories of learning are theories of instruction" is discussed by Thomas & Harri-Augstein as follows:

Nine times out of ten what is designated a theory of learning is concerned to show how a teacher's actions appear to bring about changes in a learner's behaviour. Such explanations are theories of instruction. . . . For us, a theory of learning must be concerned with how learners self-organise their own behaviour and experience to produce changes which they themselves value. This definition allows us to look again at theories of teaching and/or instruction. (Thomas & Harri-Augstein, 1985, p. xxv).

Often in educational practice, a theory of instruction may exist independently of any accompanying theory of learning. Yet only if they are considered jointly can either the theory of learning or that of instruction be tested.

□ For example, the project method is widely employed throughout education, perhaps often by teachers who are unaware of its philosophical basis, i.e., that learning should be holistic, that the pupils should invent/create their own solutions (not solve artificial puzzles that lead them to a predetermined correct answer), that there should be a tangible and unique end product, that pupils should be empowered, autonomous owners of the whole

Influences during the initial phase of the research

● Thomas & Harri-Augstein -

exercise, and not just obediently jumping through the hoops set by others.

[Construct theory] ... requires techniques for making explicit the person's own constructions of the world so that they may reflect on them. (Thomas & Harri-Augstein, 1985, p. xxv).

□ Foundation students were asked in Inquiry I to recount practical or concrete examples drawn from their past experience in order to bring those past events to the forefront of their minds and to encourage them to reflect upon them.

□ In Inquiry I, Foundation students were invited to describe their conceptual models of a project. This was to enable them to examine what constructions they had put upon that experience, and what conclusions they had drawn from their other contributory experiences. It was also to demonstrate to the students how our conceptual models underpin our interpretation of subsequent similar events.

[Carl] Rogers . . . believes that the only valid and useful explanation of the client's experience and behaviour is that offered by the client. That is not to say that the client's initial explanations are true, but merely acknowledges them as the only valid starting point for an exploration by the client into their own process. . . . This paradigm is based on the belief that people must understand and thus explain themselves and that the role of the practitioner is to create the conditions in which this may happen. (Thomas & Harri-Augstein, 1985, p. xxvi).

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□ This statement does not say that the only true explanation is the one offered by the client, but the only one valid for his experience. Therefore the subject's comments, explanations and interpretations are those that should be listened to most closely by the researcher.

□ Foundation students were not asked to supply categories for the replies that were offered in Inquiry I & II. In Inquiry III, when they were supplied with two category systems (Course Design/Peripheral Factors) they were not interested in ranking the elements contained in them. They did not wish to supply meaning to items generated by someone else.

□ This need to ensure that students would themselves supply the category or supply the meaning was tackled later in the student consultation meetings. In these, students were asked to suggest how they would overcome any problems they identified in their courses. This request in effect required the students to explain how they interpreted the problem: the recommended solution usually revealed the view held of the nature of the problem.

This 'conversational science' paradigm is based on the belief that no-one can know themselves unaided. . . . Conversation implies that whilst meaning is shared, each participant remains

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free to accept, reject and/or reconstruct the shared meanings. . . . They can invent new meanings. (Thomas & Harri-Augstein, 1985, p. xxvi).

□ The choice of the pyramid or snowball procedure was based on the belief that a questionnaire draws from respondents only crude, raw, unreflected-upon comments. It is essential that respondents test their thoughts and opinions by sharing them with others and by listening to what others have to say. Two essential requirements to ensure that this happens are :

1. a choice of task or purposes which the respondents feel is important and legitimate, and
2. a safe environment with clear ground rules which does not threaten and pressurise the participants.

Both these conditions were obtained with Foundation and with the course evaluation meetings.

The principal exchange that takes place in education is that between the learner and the teacher.

Changes in behaviour and changes in experience are both valid indicators of learning. If you are a teacher, the problem with relying solely on the learner's experience as evidence is that such evidence is not directly available to you. As a learner, the trouble with relying on the teacher's inferences from observing your behaviour is that the inferences . . . may not feel right [to you]. The learner alone has direct access to his or her experience; but only an observer can describe the learner's *behaviour* with accuracy and precision. The learner and the observer must share this evidence. This is another cogent

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reason for insisting that teaching/learning must always be a conversational process. (Thomas & Harri-Augstein, 1985, p.308)

This 'blind spot' in our perception of ourselves, and for which we need the help of others, is set out in the Johari window (adapted from Jaques, 1984, pp.52-54)

	Known to self	Not known to self
Known to others	The Open Area (1)	The Blind Area (2)
Not known to others	The Hidden Area (3)	The Unknown Area (4)

Key

1. the free and open area known to self and others
2. the things others can see but of which we are unaware
3. the knowledge we have about ourselves but which we prefer to keep hidden
4. areas which are not known by ourselves or others, but which may eventually be revealed. They may be however affecting our behaviours and relationships.

One recurring problem in inquiring of human subjects is how to discover what things mean to them:

....it is the meaning attributed to each event, not the event itself, which influences a person's reactions to it. (Thomas & Harri-Augstein, 1985, p.xxviii)

Questionnaires are much less able to penetrate to this second, deeper layer of meaning; they are more likely to collect the surface events.

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There is a danger that the interpreter of the questionnaire responses will attribute inappropriate meanings to those surface events.

People who have not worked out their own criteria feel basically insecure and uneasy with the criteria of others (Thomas & Harri-Augstein, 1985, p.15)

The students queried classification supplied to them in the Course Design/Peripheral Factors sheets (Inquiry III), and declared it impossible to rank the items.

Shared construing is much richer than individual construing. (Thomas & Harri-Augstein, 1985, p.34)

The pyramid/snowball technique promotes shared construing.

The learning conversation is a collaborative exchange - people should not emerge feeling manipulated. The 'nodes of control' should pass back and forth between practitioner and client. (Thomas & Harri-Augstein, 1985, p.70)

In formal teaching/lecturing, the node of control may remain with the teacher. Sometimes problems or tasks may be set which appear to pass that control to the student, but these may be more correctly defined

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as 'puzzle-solving' (i.e., 'guess what teacher's thinking!') than as 'problem-solving'. . With true problem-solving, or problem-resolving, and with most project work, no single prior solution exists. The task is open-ended. The node of control starts with the teacher who sets the task, passes back and forth while the task is undertaken, returns to the teacher at assessment (and indeed may return to the student if self-assessment is employed.)

The importance of opposites in defining more precisely what is meant and what is not meant) has already been discussed at length in Chapter 3.. The role of opposite poles in the repertory grid, is explained below.

Bi-polar constructs are necessary because similarity contains no meaning - only with the contrast pole does meaning emerge. The similarity that links the pair helps to underline and define the meaning assigned to the pair and also therefore to the contrast pole. (Thomas & Harri-Augstein, 1985, p104)

□ The request to Foundation students in Inquiry I to describe the best and the worst projects they had experienced was an attempt to explore both poles of project work, and therefore to discover the full range of meanings that it held for them.

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□ In attempting to map characteristics of the best/worst projects on to a single back-to-back display chart, the difficulty of defining what was opposite in meaning became immediately apparent.

For example, 'left alone to work, given plenty of freedom' had two possible opposites: '"not left alone, not given enough freedom' or "left too much alone, given too much freedom". The opposite that was chosen to embrace both these two extreme positions was: "not given the optimum amount of freedom". Therefore it was judged that the best projects registered optimum conditions (not absolute conditions) and bad projects demonstrated departure from those optimum conditions.

□ An interesting feature to emerge from some of the elements proposed by students in Inquiry II was the linking or pairing of items that belonged in the student's mind to the same continuum, occupying its extreme poles. These items so linked were in the students' thinking both necessarily present in the learning situation. They were not alternative but complementary.

For example, many people if concerned entirely with dictionary meanings of language might think that competition was so at variance with the ethos of co-operation that the two inhabited entirely separate 'universes'. Yet students of all the five year groups,

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without prompting, listed 'co-operation and competition' in one breath, in a single phrase, written on a single coloured square of paper.. This was a major insight into students' wishes: they wanted both co-operation and competition.

□ Another interesting feature was the separating into two different categories of, items that might logically be thought to be single items.

The mentions of the tutor were particularly vivid examples of this. In one respect, the tutor was described as an authoritative figure, master of expert knowledge, a demonstrator of technique, standing above the students, a goal to strive for, a role model to emulate. In other mentions, proposed by the same students who saw the tutor as 'expert', the tutor was also described as an enthusiast, a supporter, the source of encouragement, someone standing alongside the students and helping them towards their goals. There were many other roles that were attributed to the tutor: planner of projects, creative handler of groups, checker of feasibility, imaginative assessor. Only an open ended process of consultation could have permitted such a range of perceptions of the role of tutor in project work.

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The next quotation alerts the reader to the possibility that any interpretation is not permanently fixed, but may change in line with new interests. This is of particular relevance when one is concerned with sorting and classifying responses.

In man the perceived meaning of events appears to be infinitely revisable. (Thomas & Harri-Augstein, 1985, p.175)

□ If the categorisation performed on data in earlier years, and even revised in recent months, is looked at with fresh eyes, it appears infinitely revisable. New new meanings, new ways of assigning, leap off the page in tune with new interests, new insights. For this reason the raw data must always be accessible to new researchers.

In discussing the relationship of the individual to the group, the key statement is this one:

The aim is not consensus but the use of the group's reactions to refine an individual position. (Thomas & Harri-Augstein, 1985, p. xxiii)

This statement lies at the heart of this thesis: that individual students need to stand outside themselves and articulate their learning processes; by doing so in peer groups, they learn from one another, they acknowledge the need for one another, and in doing so become clearer about their own needs.

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□ In the pyramid exercise, the refining of the individual position takes place in the safe environment of the small group. The small group on these occasions is the natural group whom they have chosen as neighbours.. There is no artificial process of randomisation to violate the safety of the unforced grouping.

□ But the hybrid pyramid/repertory grid process makes visible to the individual exactly how he is "using the group's reaction to refine an individual position." By designing a simple procedure that encourages individuals to borrow items put forward by others, they are enabled to find a wider, broader true picture than the one that came to mind when they were writing down their personal views. In the three-stage pyramid process, one is not diluting the responses of the individual but enriching them; recognising and acknowledging as true for them a larger truth, one which they could not voice working on their own.

This chapter has sought to show how a close study of the concept of the learning conversation and the development of the repertory grid technique as described in Thomas & Harri-Augstein (1985) underpins the thinking of this thesis even if repertory grids *per se* were not employed.

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● STUDIES OF THE RELATIONSHIP OF INDIVIDUAL TO GROUP

One of the recurring concerns of this research was an examination of the relationship of the individual to the group. Most psychologies are either ideographic - a study of the individual - or nomothetic - a study of the group. This study wished to focus not on one to the exclusion of the other, but to examine the interrelationship, the interdependence, of the individual and the group.

It was important to look at the role of the individual and the group in project work. What were the arguments for and against group rather than individual projects? Should one make inquiries in a group setting or were the responses likely to be considered at greater depth if answered by individuals working alone?

Before attempting to answer that question, it might be helpful to look at a survey of all the tasks best performed by the group rather than by the individual. (Reproduced from Douglas, 1983, p.79)

Functions that groups perform better than individuals

1. Tasks requiring more than one person.
2. Tasks requiring the division of labour.
3. By combining estimates, groups reduce possible error.
- 4. Groups produce more and better solutions to a problem.

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5. Groups make more efficient use of resources.
6. Groups eliminate inferior ideas more effectively.
7. Social motivation is higher in the presence of others.
8. The presence of others leads to increased productivity.
9. Where tasks involving random error are in process, groups tend to produce superior judgements.
10. Groups achieve more than even the most superior individual member.
11. Groups learn faster.
12. Groups tend to make more risky decisions.
13. Groups minimize the sense of responsibility of any one member for the outcome.
14. Groups ensure tenacity of purpose by committing members to group decisions.
15. The feedback of performance is from multiple sources and therefore is more likely to be accurate.
16. Involvement and participation produces a high level of commitment.

The functions accompanied by a 'D' are those of greatest importance for the group meetings with Foundation and with Polytechnic students.

Sprott (1958) gives the most obvious and logical reason for turning to the group:

One of the main arguments for the use of groups specifically created to achieve certain ends has been that as group influence generated behaviour patterns in the first instance, they should therefore prove to be the most effective method of changing them. . .

Some of the most compelling examples of the power of the group in bringing about changes in behaviour are the controlled experiments conducted by Kurt Lewin.

Influencing a population to make a change such as substituting the consumption of dark bread for white bread means trying to break a well-established 'custom' or 'social habit'. Social habits usually are conceived as obstacles to change. What does a

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social habit mean in terms of force fields and what does 'breaking a habit' mean?. (Lewin, 1952, p.224).

Lewin was responsible for a series of controlled experiments in changing the food habits and social behaviour of ordinary people - getting them to drink more milk, to eat brown bread rather than white, to give babies orange juice and codliver oil. In all cases he arranged for members of one group to be given an informative lecture, telling them all they needed to know in order to make an informed decision. The parallel group were given the same information, but as part of a group discussion. Many more members of the discussion group made the required changes and, more significantly, adhered to those changes long after the initial meeting. Some interesting and slightly unexpected side results emerged - the proportion complying with the proposed changes increased over a period of time, even though there was no further discussion or information given. In some cases the group never saw one another again after the first meeting. In the case of the dark/white bread experiment, it was noted that the preference for white bread remained in both groups, but members who had discussed the topic changed their behaviour despite their preference: eagerness to comply with the group decision over-rode individual preference for white bread. However, individuals who had only heard the lecture remained influenced primarily by their own personal preferences. (Summarised from Lewin, 1952, p.228 -236).

. . .one of the reasons for the effectiveness of 'group carried' changes which approach the individuals in face-to-face groups . . . [is because] . . . the resistance to change is diminished if one uses a procedure which diminishes the value of the group standard or which changes the level that it is perceived by the

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individual as having social value. Perhaps one might expect single individuals to be more pliable than groups of like-minded individuals. However experience in leadership training, in changing food habits, work production, criminality, alcoholism, prejudices - all seem to indicate that it is usually easier to change individuals formed into a group than to change any one of them separately. (Lewin, 1952, p.227-8).

Lewin states that change within the group takes place in three steps: unfreezing, moving, and freezing of group standards. He discusses the role of motivation in affecting the group's thinking.

A lecture and particularly a discussion may be quite effective in setting up *motivations* in the desired direction. Motivation alone however does not suffice to lead to change. That presupposes a link between motivation and action. This link is provided by the decision but it usually is not provided by lecturers or even by discussions. This seems to be, at least in part, the explanation for the paradoxical fact that a process like decision which takes only a few minutes is able to affect conduct for many months to come. The decision links motivation to action and at the same time has a 'freezing' effect which is partly due to the individual's tendency to 'stick to his decision' and partly to the 'commitment to the group'. . . The experiments show that even decisions concerning individual achievement can be effective which are made in a group setting of persons who do not see each other again. (Lewin, 1952, p.233).

Lewin notes that making use of the 'field forces' of the group is by no means always easily executed. In many cases it requires considerable skill to bring about the required changes through group discussion.

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Douglas (1983) has other uses of the group beyond the tasks already listed in the table.

Groups are equally good at maintaining existing patterns of behaviour by giving confirmation to them and also at moving people to further effort in the same direction. . .

[The group] can be very supportive of commonly held views. Each member can withstand attack on these views, confident in the knowledge that he or she does not stand alone and can advance supported by his or her allies. . . ""

A group is a resource pool that is greater in any given area than the resources possessed by any single member . . .

However a problem exists in that . . . these resources are . . . never used to the full. The main reasons are that they are never made explicit and therefore are not recognised as existing. Also, lack of trust may retard any offer of a resource to the group by any of the members, and traditional methods of operating may ignore what resources do exist because no-one ever thinks of asking for them to be used.

□ This research seeks to use the resources of the group to its fullest extent, to publicise this use and apply it in as wide a range of situations as possible. The following quotations points to the particular benefits to be derived from drawing on the group.

Groups facilitate learning about group behaviour, about others, about oneself, and about co-operative effort. Thus the four main uses to which groups may be put can be listed as:

1. an instrument of behavioural or attitudinal change
2. an instrument of support and maintenance.
3. a pool of resources
4. an instrument to facilitate learning. (Douglas, 1983, p.189-90)

Groups that attempt to enhance learning have a special and distinct task:

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The first part of the process is 'learning how to learn' . . . an entirely different method of learning from that normally associated with school. . . . the individual group member . . . begins to understand that no expert authority is going to offer answers . . . [he] has to learn how to tolerate ambiguity because certainties are infrequent and expectations have to be explored rather than met. (Douglas (1983) p.198

'Learning-to-learn' is at the core of self-organised learning as explored in Thomas & Harri-Augstein (1985) and takes place as much in the arena of the group as in the internal learning conversation of the individual.

. . . in making the group their focus of convenience, social psychologists have lost much of the meaning of the individual person within the group and the meaning of the group to that individual person. (Bannister & Fransella, 1971, p.33

The power of the group to deliver a performance greater than the sum of its parts, and yet to feed back to the individual, can be neatly demonstrated by playing and completing the score sheets of the NASA exercise : Seeking Consensus (Jaques, 1984, pp.261-267).

□ In this exercise, a group is given a list of items which might help them survive on the moon/on a raft on the Pacific. Firstly, working on his own, each individual ranks the items in order of importance, according to his general knowledge/lateral thinking. Once individual lists are complete, group discussion begins with the goal of getting the group to agree a joint list. The final list is then compared to that drawn up by NASA experts. The group list is

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● Studies of the relationship of individual to group - marked according to how closely it matches the NASA ranking. Individual lists are also marked and the scores compared. The group mark is always better than any of the individual marks. This demonstrates to the students the educational power of group thinking in raising the quality of decision-making.

From the many studies of the behaviour of individuals within the group, one of the strongest distinctions to emerge is the tendency for a group to develop either 'task-oriented' or 'process-oriented' behaviour in its deliberations. It would therefore seem that both types of behaviour are essential to successful and effective group working. Therefore strategies should be devised that allow the group processes to develop and which give them a clear path to follow in achieving the task.

□ Interestingly, training in group dynamics can be added to the Nasa game by playing it in a 'fishbowl'. In a fishbowl, observers form an outer ring around the game-players. Each observer monitors and records the contributions made by one player, scoring each contribution on a prepared card (Bales' Observational Categories can serve as a basis for the items.) At the close of the game, the observers report what they have noted about their player, and about the task or process orientation of the group. It is also possible to make a sociogram as a running record of the interchanges.

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This research considers the reflexive interrelationship of the individual and the group. It concludes that the sum of group thinking is greatly enriched by the contributions of the reflective 'conversational' individual and that such a person does not truly know the totality of what he thinks and believes until he has rehearsed his thoughts in the presence of others, heard their contributions and added them to his world view.

CHAPTER 2 INFLUENCES DURING THE PROGRESS OF THE RESEARCH:

PARADIGM, PARADOX, POLE

This chapter explores the connections between concepts of

- paradigm - a total conceptual model which determines our perception and interpretation of our world, how it works, and how we should act within it
- paradox - a contradictory, opposing and seemingly impossible conjunction that defies logic
- pole - the extreme and opposite position on a single continuum.

The chapter suggests that if we explore the perceptions of those who inhabit the world we have designed for them, we may find that their 'contrast poles' are not what we expect, that their poles are paradoxes which illuminate a different world picture than the one we know. These discoveries may point to a fresh and more appropriate paradigm. The writings discussed in this chapter were influential during the progress of the research and therefore influenced not the original design but the development of the inquiry method and the interpretation of the student responses. Key figures are those of Thomas Kuhn and Fritjof Capra. The discussion in this chapter prepares the ground for the description of 'new paradigm research' (Reason & Rowan, 1986) in Chapter 3.

● PARADIGM : THOMAS KUHN

The first detailed exposition of the concept of paradigm in relation to the historical development of science and the consequent philosophies held by the scientific community came from Thomas S Kuhn in *The Structure of Scientific Revolutions* (1962). In this he demonstrated that there had been a series of revolutions in scientific thinking and in using science to explain natural phenomena. Kuhn stated that major new developments in science always gave rise to paradigm shift. As new scientific developments might be delayed or obstructed if one were shackled too tightly to an old paradigm, one

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should not mourn the demise of the old but celebrate the birth of the new paradigm.

The study of paradigm . . . is what mainly prepares the student for membership in the particular scientific community with which he will later practise. Because he there joins men who learned the bases of their field from the same concrete models, his subsequent practice will seldom evoke overt disagreement over fundamentals. Men whose research is based on shared paradigms are committed to the same rules and standards for scientific practice. That commitment and the apparent consensus it produces are prerequisites for normal sciences, i.e. for the genesis and continuation of a particular research tradition. (Kuhn, 1962, p.10-11.)

In its established usage, a paradigm is an accepted model or pattern, and that aspect of the meaning has enabled me, lacking a better word, to appropriate 'paradigm' here. . . . In a science . . . a paradigm . . . is an object for further articulation and specification under new or more stringent conditions. (Kuhn, 1962, p.23.)

Kuhn discusses the way in which a paradigm both precipitates and is a result of changes:

Paradigms gain their status because they are more successful than their competitors in solving a few problems that the group of practitioners has come to recognise as acute. (Kuhn, 1962, p.23.)

Normal science consists in the actualisation of that promise, an actualisation achieved by extending the knowledge of those facts that the paradigm displays as particularly revealing, by increasing the extent of the match between those facts and the paradigm's predictions, and by further articulation of the paradigm itself. (Kuhn, 1962, p.24)

He describes normal science as puzzle-solving (slotting missing pieces into a pre-existing jigsaw) rather than problem-solving (a search for meaning, order, purpose and resolution in mysterious and chaotic events). It is the success in finding solutions (puzzle-

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solving) that ties us to the old scientific paradigm and lulls us into thinking we are doing 'good' science.

It is no criterion of goodness in a puzzle that its outcome be intrinsically interesting or important. On the contrary, the really pressing problems, eg a cure for cancer or the design of lasting peace, are often not puzzles at all, largely because they may not have any solution. (Kuhn, 1962, p.36-7.)

. . . Though intrinsic value is no criterion for a puzzle, the assured existence of a solution is.

The existence of this strong network of commitments - conceptual, theoretical, instrumental and methodological - is a principal source of the metaphor that relates normal science to puzzle-solving. Because it provides rules that tell the practitioner of a mature speciality what both the world and his science are like, he can concentrate with assurance upon the esoteric problems that these rules and existing knowledge define for him. What then personally challenges him is how to bring a residual puzzle to a solution. (Kuhn, 1962, p.43)

. . . anomaly appears only against the background provided by the paradigm. (Kuhn, 1962, p.65)

The very fact that a significant scientific novelty so often emerges simultaneously from several laboratories is an index both to the strongly traditional nature of normal science and to the completeness with which that traditional pursuit prepares the way for its own change. (Kuhn, 1962, p.65)

Let us then assume that crises are a necessary precondition for the emergence of novel theories and ask how scientists respond to their existence. . . The decision to reject one paradigm is always simultaneously the decision to accept another and the judgement leading to that decision involves the comparison of both paradigms with nature and with each other. (Kuhn, 1962, p.77)

A comparison can be made between this 'puzzle-solving' activity and that of the closed questionnaire or prepared schedule of questions. In these, the researcher slots answers into a pre-existing framework (or paradigm) and thus prevents the emergence of a new paradigm. In this way closed questions prevent the emergence of problems that have not been anticipated by the researcher. By contrast, open-ended

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questions and, better still, inquiries in which the subjects set their own agenda, permit more rapid emergence of fresh frameworks and new paradigms.

● PARADIGM : FRITJOF CAPRA

Fritjof Capra (1982) in *The Turning Point: Science, Society and the Rising Culture* brings the use of the term paradigm out of the scientific community into the wider world. He includes everything that contributes to our understanding of the world we live in.

What we need then is a new 'paradigm' - a new vision of reality; a fundamental change in our thoughts, perceptions and values. The beginnings of this change, of the shift from the mechanistic to the holistic conception of reality, are already visible in all fields and are likely to dominate the present decade. [ie. the 1980s] (Capra, 1982, p.xviii).

Capra, later in the preface, requires:

. . . a detailed discussion of the new vision of reality. The new vision includes the emerging systems view of life, mind, consciousness, and evolution; the corresponding holistic approach to health and healing; the integration of Western and Eastern approaches to psychology and psychotherapy; a new conceptual framework for economics and technology; and an ecological and feminist perspective which is spiritual in its ultimate nature and will lead to profound changes in our social and political structures. (Capra, 1982, p.xix)

Capra notes signs that our civilisation can no longer fit current puzzles into the old framework of solutions. Our existing and

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traditional puzzles have become genuine and intractable problems that urgently require resolution and for which no framework is available. [Aids, global warming, pollution are current examples of these problems].

It is a striking sign of our time that the people who are supposed to be experts in various fields can no longer deal with the urgent problems that have arisen in their areas of expertise. Economists are unable to understand inflation, oncologists are totally confused about the causes of cancer, psychiatrists are mystified by schizophrenia, police are helpless in the face of rising crime. (Capra, 1982, p.5)

. . . None of them, however, identified the real problem that underlies our crisis of ideas: the fact that most academics subscribe to narrow perceptions of reality which are inadequate for dealing with the major problems of our time. These problems . . . are systemic problems which means that they are closely connected and interdependent. (Capra, 1982, p.6)

Toynbee (1972, p.228) describes a 'rising culture', using a different metaphor to invoke the same shift, but from the perspective of a historian:

During the disintegration of a civilisation, two separate plays with different plots are being performed simultaneously side by side. While an unchanging dominant minority is perpetually rehearsing its own defeat, fresh challenges are perpetually evoking fresh creative responses from newly recruited minorities, which proclaim their own creative power by rising, each time, to the occasion. The drama of challenge-and-response continues to be performed, but in new circumstances and with new actors.

Capra explains that by using the term 'crisis' he does not wish to become a prophet of despair, but to herald fresh possibilities of change.

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The term that they [the Chinese] use for 'crisis' - *wei-ji* - is composed of the characters for 'danger' and 'opportunity'. (Capra, 1982, p.7)

As examples of the kind of paradigms we have lived within during previous eras, Capra identifies three major dominant cultural modes - patriarchy (perhaps now to be replaced with more feminine ways of thinking and being); energy derived from fossil fuels (perhaps now to be replaced by solar or other forms of renewable energy); and a scientific and mechanistic paradigm, (the belief that the universe is composed of elementary material building blocks, the view of life in society as a competitive struggle for existence, and the belief in unlimited material progress to be achieved through economic and technological growth). (Capra, 1982, p.10-12)

Capra states in his discussion of the polar opposites of yin and yang, that:

. . . it is important, and very difficult for us Westerners, to understand that these opposites do not belong to different categories but are extreme poles of a single whole. . . . All natural phenomena are manifestations of a continuous oscillation between the two poles, all transitions taking place gradually and in unbroken progression. (Capra, 1982, p.180)

Yin corresponds to all that is contractive, responsive, conservative, whereas yang implies all that is expansive, aggressive, and demanding.

Yin = earth, moon, night, winter, moisture, coolness, interior.

Yang= heaven, sun, day, summer, dryness, warmth, surface.

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Yin and yang have never been associated with moral values. What is good is not yin or yang but the dynamic balance between the two; what is bad or harmful is imbalance. (Capra, 1982, p.18-19)

Change is a natural tendency, innate in all things and in all situations. (Capra, 1982, p.21)

Capra goes on to consider the relationship of the part to the whole. This can be found in an unbroken hierarchy of relationships through all levels of living things. The part/whole relationship illuminates the relationship between the individual and the group, and indicates how each needs the other for full development and working out of its potential. The hierarchy is not an inert, lifeless taxonomy that allows us to pigeonhole living things at an appropriate level but a living exchange, an interrelationship that is life.

Living systems are organised in such a way that they form multi-levelled structures, each level consisting of sub-systems which are wholes in regard to their parts, and parts with respect to larger wholes. Thus molecules combine to form organelles, which in turn combine to form cells. The cells form tissues and organs, which themselves form larger systems, like the digestive system or the nervous system. These finally combine to form the living woman or man; and the 'stratified order' does not end there. People form families, tribes, societies, nations. . . . So the parts and wholes in an absolute sense do not exist at all. (Capra, 1982, p.27)

In writing of the way in which our previous scientific paradigm limited what we could draw on as evidence to help us understand our world, Capra quotes R.D.Laing writing of the Newtonian 'world machine':

INFLUENCES DURING THE PROGRESS OF THE RESEARCH

● Paradigm, paradox, pole -

Out go sight, sound, taste, touch and smell and along with them have since gone aesthetics and ethical sensibility, values, quality, form; all feelings, motives, intentions, soul, consciousness, spirit. Experience as such is cast out of the realm of scientific discourse. (Capra, 1982, p.40)

Following Newtonian physics, Locke developed an atomistic view of society, describing it in terms of its basic building block, the human being. . . . Locke attempted to reduce the patterns observed in society to the behaviour of its individuals. Thus he proceeded to study first the nature of the individual human being, and tried to apply the principles of human nature to economic and political problems. (Capra, 1982, p.55)

Capra turns to modern physics to see what has been discovered about the building blocks of our material world:

In contrast to the mechanistic Cartesian view of the world, the world view emerging from modern physics can be characterised by words like organic, holistic and ecological. It might also be called a systems view, in the sense of general systems theory. (Capra, 1982, p.66)

In other words, modern physics does not tell us 'what the world is made of' so much as 'what each element does in a given situation'. This is a dynamic, reflexive and functioning universe rather than an absolute, stable, physical, material universe.

An electron is neither a particle nor a wave, but it may show particle-like aspects in some situations and wave-like aspects in others. While it acts like a particle, it is capable of developing its wave nature at the expense of its particle nature, and vice versa, thus undergoing continual transformations from particle to wave and from wave to particle. This means that neither the electron nor any other atomic 'object' has any intrinsic properties independent of its environment. The properties that it shows - particle-like or wave-like - will depend on the experimental situation, that is, on the apparatus it is forced to interact with. (Capra, 1982, p.67)

INFLUENCES DURING THE PROGRESS OF THE RESEARCH

● Paradigm, paradox, pole -

This 'context-dependent' behaviour can be identified much higher up the scale, with human beings. Recent studies into how students learn, and how they choose to learn (Marton, 1975; Marton & Saljo, 1976; Ramsden & Entwistle, 1981) show that learners use 'deep' or 'surface' strategies depending on how the task is presented or how they perceive the task.

All these studies reinforce the earlier work of Kelly and Rogers that indicates that it is the individual's world picture that determines his behaviour. All other 'rules' to predict or explain behaviour have to be subsumed beneath that first premise.

The Heisenberg principle takes this theory of context-dependence a stage further, limiting the future applications of known laws in case we will require new frameworks or contexts as well.

. . . every word or concept, clear as it may seem to be, has only a limited range of applicability. (Capra, 1982, p.33)

Having stated that all things are relative, different, subject to change, the new physics plunges deeper to explore in what way, at a fundamental level they are all one, all the same, interconnected. Nils Bohr's theory of complementarity is described:

. . . [he] considered the particle picture and the wave picture two complementary descriptions of the same reality, each of them only partly correct and having limited range of application. At the sub-atomic level, the solid material objects of classical physics dissolve into wave-like patterns of probabilities. These patterns, furthermore, do not represent probabilities of things, but rather probabilities of interconnections. (Capra, 1982, p.68)

INFLUENCES DURING THE PROGRESS OF THE RESEARCH

● Paradigm, paradox, pole -

This shift from objects to relationships has far-reaching implications for science as a whole. Gregory Bateson even argued that relationships should be used as a basis for all definitions and that this should be taught to our children in elementary school. Anything should be defined not by what it is itself, but by its relations to other things. (Capra, 1982, p.70)

These excursions into the realms of modern physics cannot provide us with laws that can be extracted and applied directly to the complex higher organisms such as man and society. But they serve as metaphors, as imaginative prompts to a new way of looking at our universe, and therefore a new approach, a new set of suggestions as to what we might investigate with benefit at the human level.

□ In the attempts to classify the Foundation students' responses and to find categories for them, it became clear that the items mentioned did not have an independent existence. Each item was in a relationship with other items.. If no relationship or interaction took place, then that item did not exist.. For example, events happen to us every day, we live surrounded by potential 'experience'. Yet individuals vary enormously in the extent to which they reflect upon, interpret and profit from that experience. It is the quality of the reflection that makes the difference not the quality of the experience itself.

The only laws are statistical laws of probability. In classical mechanics the properties and behaviour of the parts determine those of the whole, the situation is reversed in quantum mechanics: it is the whole that determines the behaviour of the parts. Capra, 1982, p.76)

INFLUENCES DURING THE PROGRESS OF THE RESEARCH

● Paradigm, paradox, pole -

□ In terms of this research project, that statement suggests that the relationship of the part to the whole, the individual to the group should be a fundamental preoccupation of education and of the human sciences. Any activity that prepares, illuminates, orchestrates and improves the quality of that interrelationship should be the object of close study.

In this interrelated world, what is the role of the observer, the researcher? In the earlier physical science paradigm, the researcher sought to withdraw as much as possible so as not to 'distort the field'. But in view of the importance of interrelationships, should not the researcher seek to increase the number and quality of connecting links with the subjects of the research? By standing alongside his subjects, he or she becomes the midwife to the new paradigm and delivers it into the public domain:

The observer is not only necessary to observe the properties of an atomic phenomenon, but is necessary even to bring about these properties. My conscious decision about how to observe, say, an electron will determine the electron's properties to some extent. If I ask it a particle question, it will give me a particle answer; if I ask it a wave question, it will give me a wave answer. (Capra, 1982, p.78)

The fact that all the properties of particles are determined by principles closely related to the methods of observation would mean that the basic structures of the material world are determined, ultimately, by the way we look at this world; that the observed patterns of matter are reflections of patterns of mind. (Capra, 1982, p.85)

The key element of the new bootstrap theory of subatomic particles is the notion of order as a new and important aspect of particle physics. Order, in this context, means order in the interconnectedness of subatomic processes. . . . The picture of subatomic particles that emerges from the bootstrap theory can be summed up in the provocative phrase 'Every particle consists of all other particles.' . . . [or rather] . . . these interrelated energy patterns . . . do not 'contain' one another but rather 'involve' one another. (Capra, 1982, p.86)

INFLUENCES DURING THE PROGRESS OF THE RESEARCH

● Paradigm, paradox, pole -

The ability to recognise order seems to be an essential spect of the rational mind; every perception of pattern . . . is a perception of order. (Capra, 1982, p.87)

[David] Bohm's starting point is the notion of 'unbroken wholeness' . . . [an] order 'implicate' or 'enfolded' in the same way that any part of the hologram can enable the reconstruction of the whole. To emphasise the dynamic nature [of this model] he uses the term 'holomovement'. (Capra, 1982, p.88.)

The relationship of the individual to the group, discussed in Chapter 1 has is placed even further to centre stage in the new paradigm than it was in the old. If properly articulated, it should manifest the same implicate and enfolded reciprocity postulated by David Bohm. The individual is extended by proper, deep and reflexive interaction with the group. A group composed of such individuals is a richer and more fully developed group. The techniques of the conversational science of Thomas and & Harri-Augstein bring about this mutual development.

● PARADOXES

The paradox is more the province of the philosopher, the poet and the psychologist of humanistic persuasion than of the scientist:

What we call the beginning is often the end
And to make an end is to make a beginning.
The end is where we start from. . . .

T.S.Eliot (1944) in 'Little Gidding', *Four Quartets*

I find I am more effective [in helping others] when I can listen acceptantly to myself and be myself.

The more I am open to the realities in me and in the other person, the less do I find myself wishing to rush in to 'fix' things.

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● Paradigm, paradox, pole -

"What is most personal is most general. (Rogers, 1967, p.17-26)

The paradox is somewhat peripheral and somewhat alien to the Western way of thinking. However it occupies a central position in the Eastern way of thought, and in its philosophies... In the East, thinking is more holist and every element is always assumed to have its opposite. The goal is balance: to hold in view the positive and negative features of any thing or of any situation and to bring about the optimum relationship, to reconcile contrary forces.

For example, the expression 'The bigger the front, the bigger the back' expresses the belief that anything promising great benefits must bring in its wake similarly huge dis-benefits. A modest proposal will bring only modest benefits but, fortunately, only modest disadvantages. (Nuclear power/renewable energy fit neatly into these two categories. The way the West thinks about these issues shows how very remote our thinking is from Eastern philosophy.)

INFLUENCES DURING THE PROGRESS OF THE RESEARCH

- Paradigm, paradox, pole -

The uses of the paradox are many:

- It defines the object of discussion more precisely by bringing into focus, and into close proximity, its opposite.
- It sheds light on unsuspected connections, aspects of our thinking that we suppress, ignore, or of which we are unaware. It can expose our hypocrisy.
- Most important, it includes within a given concept its opposite.

● OPPOSITES & POLES

What is meant by saying that one thing is the opposite of another is a question that has preoccupied philosophers from Plato onwards. Plato held that an opposite actually defined that which it was opposite to - for example, death was the opposite of life, and without death there could be no concept of life, therefore death served to define what was meant by life. Similarly, the concept of life served to define its opposite - death.

If one imagined that no human being ever died, that we all lived eternally, that all people who had ever lived were still alive today, we can immediately see that we could not have any idea of the concept of 'death'.

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● Paradigm, paradox, pole -

Plato also felt that there was a dynamic process or tension which held the two opposites together. He felt that life, for example, was always moving towards death, waking towards sleeping (and sleeping towards waking. Not only were they opposites, not only did they serve to define each other, but they also were the other - ie. sleeping was the complete absence of wakefulness but was also in another sense an extreme version of wakefulness. Being awake was the complete absence of being asleep but had the possibility of sleep within it. Such terms could only be used in the knowledge that the opposite state was a theoretical possibility. One could only be alive if one could theoretically be dead; one could only be awake if one had the possibility of being asleep. A particularly strong debate surrounds the concept of 'good' and 'evil'. It is held that 'goodness' cannot exist as a concept unless there is an acknowledgement that 'evil' exists as a concept that is closely bound up with it.

In repertory grid terminology opposites are represented as the contrast poles of the same continuum. When represented as extreme points on contrast poles, they are clearly linked to each other in graphic representation - by the pole drawn across from one extreme to the other. These contrast poles are not supplied by the researcher, they emerge from the interpretation and explanation attributed to the elements by the client.

INFLUENCES DURING THE PROGRESS OF THE RESEARCH

● Paradigm, paradox, pole -

In a closed form of inquiry, such as a closed questionnaire, the interviewer has already assigned meaning to the items given, and usually that meaning is a logical or dictionary meaning. A closed questionnaire cannot permit individual attribution of meaning to items. But these commonly held or logical interpretations may not be true for individuals or for groups who may have quite different perceptions.

□ So a procedure that allowed Foundation students to identify items of experience themselves, without any prompting, and induced them to write down their elements on squares of paper, made it possible for previously unsuspected pairings of opposites to emerge.

□ The most important of these was the frequent pairing of 'co-operation and competition' (sometimes expressed in the reverse order of 'competition and co-operation'). For many teaching staff those two words are seen to belong to quite different universes. One member of staff might espouse co-operation and for that tutor its opposite might be 'individualism' or 'lack of co-operative spirit'. For a different tutor who espoused competition, its opposite might be 'lack of competitive drive'.

□ But for a considerable number of Foundation students these terms occupied the extreme or contrast ends of the same pole. Competition

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● Paradigm, paradox, pole -

was a dynamic that that was at an extreme remove from co-operation: co-operation was a method of working that could conceivably replace competition. More importantly if one follows the Platonic argument, it would follow that co-operation cannot exist without competition, nor competition without co-operation. They seemingly must exist in a symbiotic relationship. For the students, they are both equally important aspects of the Foundation course. This was expressed quite naturally and without strain by Foundation students. They did not feel that they were expressing anything unusual. It is only to an audience locked into certain preconceived concepts that the pairing could be unusual.

This insight would not have emerged through a closed questionnaire. The more that interviewees can supply their own items of experience without prompts, the more they have the opportunity to assign meaning to their elements, the more will be revealed to us the nature of the universe they inhabit. Without that freedom, we merely force them into our preconceived patterns : we lose a valuable opportunity to look at our world with fresh eyes.

So using an open questionnaire increases the likelihood of of unsuspected insights into the universe of the respondents. It means that the uses people make of words, terminology and language, and the combinations they choose are as revealing as the words themselves. The first stage allows them to choose the words, the second and third

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● Paradigm, paradox, pole -

stages allow them to work on those words, to process them, to move them around and, by doing so, to reveal more clearly the significance those words hold for them.

The free choice of words allows us to see a second-order choice, what it is that those words signify to the speaker.

CHAPTER 3. THE CHARACTERISTICS OF NEW PARADIGM RESEARCH

This chapter discusses the impact on the research project of new paradigm research as described by Reason & Rowan (1981). The papers published in this book indicated that the research with Foundation students had more in common with new paradigm research than with one drawn from the physical sciences. It also pointed the way to new and unsuspected possibilities of further development. It was clear that the style of the student consultation meetings were also in line with the philosophy of the new paradigm. This chapter describes the characteristics of new paradigm research and shows how both the Foundation research project and the student consultation meetings relate to those characteristics. The theoretical basis of new paradigm research and the details of case studies published in this book encouraged the making of certain changes and adjustments to the later years of the research project and these changes are described. See Fig 1a.)

This chapter explores a new paradigm for research with people rather than with one derived from the physical science experimental method, initially devised for dealing with inanimate objects, substances, forces, and the natural world of plants and animals.

THE PHYSICAL SCIENCE PARADIGM

The physical science paradigm is so familiar and so pervasive that, even if one were minded so to do, it would be difficult to avoid its influence entirely.

Its characteristics are detachment and neutrality of the researcher, reliability, replicability, control of variables, control of environment, statistical validity and significance. So strict are its conventions that only certain types of investigation can be entertained within its strict confines: others would be ruled out of court.

Miller Mair, speaking at a public seminar at Brunel University gave a detailed critique of the physical science conventions. These were summarised as follows in the minutes of the meeting (Richardson, 1989):

1. The scientific paradigm assumes that it is desirable and possible to have detached observers. It assumes that all experimenters (E's) are interchangeable in an experiment. It similarly assumes that all subjects (S's) are interchangeable. And it assumes that out of this non-meeting between the detached experimenter and the uninfluenced subject, something interesting and useful will emerge!

But we are all totally immersed in our own culture and disciplines. We are born into a particular place and time. The language we use has a profound influence whenever we use it. It is not an independent tool. We can't even question the culture in which we are immersed. We only pretend to be detached when we conduct our experiments. And the responses we get are culturally coded responses from our subjects aimed at us as experimenters.

2. It is assumed that there is such a thing as a naive subject - that if you don't tell a subject what is going on that he will be naive. In fact, subjects are thoroughly engaged in the whole process, not detached from it. A more useful assumption is that we are all local experts and that the individual is above all the expert at being himself. But, by and large, the local expertise that we have about being ourselves is largely not reflected upon, just a continuous stream of enacted behaviour. So the task of the scientist is to 'lead out' (the Latin *educare* = to lead from, and is the root of our word to educate) deeper knowledge about the topic on which they are already expert - themselves.

3. There is a widespread assumption that we are individual units, that our 'selves' are coherent structures, entities. But each of us has many selves, multiple selves, we are a 'community of selves'. Sometimes we speak with different voices, voices we didn't know we had, young selves, angry selves, selves from a different part of our life. . . . We all carry remnants of these communities.
4. When you ask a 'subject' to contribute to your experiment, you assume that he has freedom to act. Yet at every moment there are pressures against us, acting on us, constraining us, forcing us into silence. . . . We have to ask questions in ways that are appropriate to [our] cultural heritage.
5. When a scientist describes a setting or context, it is usually assumed that a physical description is sufficient. The purpose of this physical description is to enable others to replicate his experiment. But the context is frequently multiple (i.e. a separate context for each person present) and always invisible.
6. The scientific paradigm assumes that one can pursue knowledge and find out how things really are. But metaphorical understanding is far more important than literal truth. We live suspended in webs of make-believe. We always look at things in the guise of something else. Thus educational practice is based on whichever metaphor of mind is held by the practitioner. If the metaphor is of a 'tabula rasa', or of the mind as a container, then one will think a mind can in some way be filled with knowledge, that its capacity will be finite, . . .
7. Facts. We are disillusioned with, and questioning of, facts. We need instead to attend to the stories in which the facts are placed. For example, psychoanalysts have different ways of 'telling stories' according to the different 'tribes' within their disciplines. For example, radical behaviourists would bore psychoanalysts. A scientific report is really a set of tightly structured conventions.

We believe that language is transparent, that through language we perceive with absolute clarity the meaning intended by the speaker. Saussure says that language is not transparent, it is substantial. It is a system of signs. There is only an arbitrary relationship between words. If we look one up in a dictionary, we are referred to another word, and to another word, until a web of meaning has been spun - but all inside the dictionary.
8. Experiments inquire into 'things'. Conversation is essential to our understanding, with its endlessly diverse cross-currents. We are in an on-going conversation: we can't get outside ourselves to observe who we are, what we are and where

we are. Only reflexivity is available to us to help us in our knowing.

It is on reflexivity that this research focuses.

THE CHARACTERISTICS OF NEW PARADIGM RESEARCH

In their foreword, Peter Reason and John Rowan (Reason & Rowan, 1981, pp.xi - xxiv) describe new paradigm research as a uniting of certain elements drawn from two previously existing research paradigms. In this new paradigm, the characteristics of subjective, naive inquiry are combined with the very different characteristics of formal, objective, detached and supposedly rigorous enquiry based on the physical science paradigm. By combining key features from these two forms, by extending the features both forms already possessed, and by adding features drawn from other disciplines - from anthropology, applied behavioural sciences, humanistic psychology, experiential learning, and from the historical-materialist language and thought of Marxism - it was possible to design a third or new paradigm of research. This new paradigm it was hoped would be more (not less) rigorous, richer in its findings, strengthening rather than weakening in use, and more powerful in its implications.

The characteristics of new paradigm research.

● Reason & Rowan -

The chief aims of new paradigm research are threefold:

- to be inclusive rather than exclusive. Rather than excluding every variable that cannot be controlled, extra information is welcomed for the additional light it sheds.
- to be more useful to subjects taking part. Rather than extracting responses from subjects to suit the purposes of the researcher, the experience of participating should benefit and enrich the subjects themselves.
- to be more useful to initial and to later researchers. The research findings should be more openly accessible, easier to interpret freshly, less condensed, reduced, summarised so that the original freshness is cloaked by the researcher's interpretation.

New paradigm research believes that a broader and a deeper background is needed to show more clearly where both the researcher and the research project are 'coming from' - ie. the personal background of the researcher and the whole range of thinking and reading (not just of the academic sources) that has had a bearing on the research. It also casts its net wider to look at earlier and later parts of the research activity (often belittled as pilot studies), and the whole setting in which the research activity takes place. Adaptation and change are seen as reflexive, indicative of sensitivity and creativity, not as deviation from the original research framework.

The characteristics of new paradigm research.

● Reason & Rowan -

The new paradigm hopes to eliminate certain features from the inquiry process or to transform them into benign elements. In particular, the new paradigm hopes to fight against:

- deception (and self-deception) on the part of the researcher.
- bad experiences for the subjects - boredom, alienation, a feeling of irrelevance, of being exploited.
- the idea that the purity of the research is in some way contaminated if real life seeps in.
- the claiming of 'large messages from small samples'.
- the preference for objectivity, detachment, and remoteness rather than for human interaction and involvement.
- the uselessness of much research, which merely confirms what has already been decided, in contrast to new paradigm research which uses its findings to fuel action and change.
- the sanitised, idealised 'scientific fairy tale' of research reporting, as opposed to a realist warts-and-all report from which something useful can be learned by everyone concerned.

A feeling of being exploited, of having one's personal experience stolen for someone else's benefit, is a common one among research subjects. For example, a colleague some years ago conducted an inquiry into the study habits of students. This took up a great deal of their time as they spent class time week after week completing long questionnaires. The students complained to their Head of School that they were being used as 'research fodder' and the questionnaires were stopped.

The characteristics of new paradigm research.

• Reason & Rowan -

- The findings from the inquiries with Foundation were not 'used to fuel action and change'. But the student course evaluation reports were a very real attempt to do this, and every decision about what to report, and how to phrase it was made in that context; would the result foster change, or would it block it?

- The links between the new paradigm of human inquiry, the research project with Foundation students and subsequent applications of the inquiry method in student course evaluation meetings were as follows:
 - 1. The research with Foundation students into how the project method helped them to learn.

- The research project was rooted in what was already being done. ie. the project method had been the basis of the Foundation course for many years.

- Foundation students were chosen as subjects because of the long teaching connection the researcher had had with that particular course. That connection was seen as a positive benefit - there was no attempt to seek out unknown neutral territory.

- When, in the middle years of the research project, that connection with the Foundation course disappeared, and the student responses

seemed to lose their spontaneity and depth, a deliberate effort was made to increase involvement, to teach more hours, to have a more significant input into the course in order to improve and regain full communication with the students. Therefore a very large project was designed on the causes and background to the Second World War to re-establish a close working relationship with the group. The Second World War was a complex, rich, deep, painful and emotional subject and stirred up powerful feelings. The Second World War project became a bonding experience which had gave them a secure base from which to communicate. As a result they responded fully and generously to Inquiry II, held the week following the end of the project.

- Changes were introduced into the procedure with Foundation groups over the five years, based on experiences or insight gained in previous years. Where changes were introduced, the responses improved; where no changes were introduced, there was no improvement (e.g. no changes were made to Inquiry III procedures and there was no improvement.)

- Details of what was said by earlier year groups were reported to the current year with the aim of sharing and building on early experience. It was believed that later year groups should benefit from their position in line, not be excluded from insights available to the researcher. So summaries of results from earlier years were issued for comment).

□ 2. Consultation meetings with student year groups as part of course evaluation.

□ In the student course evaluation meetings, the chief aim was to identify those changes necessary to the course and to bring them about to the benefit of the student body, i.e. to build positive attitudes (not merely to collect negative responses, grudges and complaints) by asking students to suggest how problems might be overcome.

□ Each session was planned to be an educational experience not just a data-collecting experience, i.e. to empower students by encouraging discussion and exchanges of experience and attitudes among themselves.

□ At all times, the chief aim of the research was to conduct it for the maximum benefit of the students taking part. The goal for the researcher was to see how this might best be achieved.

The role of the researcher in new paradigm research

Shulamit Reinharz (in Reason & Rowan, 1981, pp.415-436) considers the stages by which a new paradigm researcher is made. She suggests that they are as follows.

1. At first there is immersion in the dominant research paradigm or at the least, a familiarity with it.

□ In the case of the Foundation research project, it was originally thought to lie within the dominant or scientific paradigm, and planned with those constraints in mind.

□ Various remnants of the early paradigm lingered throughout the five years - the repetition over the five years of the original three points for questioning: at the beginning, middle and end of the year; the asking of the same questions and use of the same format each time; the view of the findings as the 'property' of the researcher; the repeated use of the questionnaire for Inquiry III, even though it was never popular with students.

□ It was only once the research entered the 'real' world of polytechnic validation that it became urgent to see whether or not the method was acceptable to course tutors receiving the reports based on the meetings. That was a far more gruelling test of the method than the privileged and private sessions with Foundation students.

2. Then, Shulamit Reinhartz suggests, there follows an awareness of problems within this paradigm, conflict about its methods, a crisis of commitment. This may stem from working in other fields where different paradigms are held. Common problems with research

design include:

- deception (and self-deception)
- vagueness
- ambiguity
- condescension
- its being culture and class-bound
- annoyance, distraction and interruption caused to the lives of the subjects.
- the researcher detached, alienated, even absent, from the setting

□ In the early years of the Foundation project, there was a tendency to feel tentative and apologetic about approaching students and taking up their time. This lack of confidence was later alleviated by students commenting on how useful they found it to focus on how they learned. It became clear that a hurried, unsatisfactorily brief session with students was more a waste of their time (because nothing useful was achieved) than one in which an adequate time allowance allowed thoughtful, unhurried and useful consideration to take place. This realisation has strengthened the demand by the Educational Development Unit for adequate time with the student year groups to conduct the course evaluation exercise. Insufficient time demeans and downgrades the activity in the eyes of the student. If it is worthwhile, it is worth time.)

3. Next, according to Shulamit Reinharz, comes a resolution of conflict with the enumeration of specific criticisms, de-

mystification of the dominant paradigm, discovery of support and the development of an innovative stance, discovery of new paradigm and alternative ways of working.

□ The reading of Reason & Rowan (1981) provided fresh ways at looking at some of the problems that had already been encountered: e.g. finding that student responses could not be paraphrased or summarised without losing something important. The book indicated the sort of solutions to look for: e.g. if students are drifting away, one needs to get closer to them, on their terms, for their purposes; one does not become stronger by stressing the needs of the researcher.

4. William R. Torbert (Reason & Rowan, 1981, p.417) suggests that the key points of the old paradigm which are rejected by the new paradigm are:

- that the researcher must not influence subjects
- that the variables must be controlled
- that validity must be statistically assessed.

The new paradigm cheerfully disobeys these caveats and find them sources of strength. Other sources of strength are increasing commitment, development of a sense of community, tapping into personal resources.

The characteristics of new paradigm research.

● Reason & Rowan -

□ There was a conscious desire when conducting the evaluation meetings with student year groups to make each meeting an educational experience in its own right.

□ The Foundation students in their warm-up activity in Inquiry II were asked to include informal learning, things they had taught themselves, and not to restrict themselves to institutionally-based learning. This was done to broaden their concept of learning.

5. Finally, according to Reinharz, new paradigm research is carried out in a series of action research cycles of feedback, revision and further development; this cycle is supported by discussion with colleagues working alongside in the enquiry process and with the subjects themselves.

□ The project on World War II with 1986-7 Foundation students was an action research 'intervention' to improve the research relationship.)

□ The student course evaluation meetings were always conducted by two staff. After a meeting, the procedure was discussed at length by the two presenters, and if necessary, slightly modified for the next meeting.

The characteristics of new paradigm research.

● Reason & Rowan -

Shulamit Reinharz lists the following requirements of researchers in new paradigm research:

- they must know and understand themselves well.
- they must be grounded in multiple worlds and cultures.
- they must be able to express and communicate their knowledge.

The skills they will need are those of listening, looking, relating, thinking, feeling, acting and collaborating. The researcher's awareness will be the single most important factor in the research activity. Reinharz notes that most of these skills draw on feminine modes of thought and action.

Herbst (quoted Reason & Rowan, 1981, pp.261-262) feels that one of the features of scientific paradigm research is that the role of the researchers - authoritative and dominant - actually works against their goals. He states:

" If the researcher wishes to act as a change agent and yet his main concern is to develop his own credibility and expertise, he will achieve the opposite and block the development of the change process".

□ The members of the Educational Development Unit, when introducing themselves, do not try to impress, or to list the degree courses that have taken part in the exercise. This directs attention to themselves, whereas all attention should be focused on the students and what they have to say.

The characteristics of new paradigm research.

● Reason & Rowan -

Herbst stresses what the researcher is not - not a therapist, not a teacher, not a catalyst, not a facilitator. The researcher is a provider of frameworks in which the subjects do all their own work.

□ In the course evaluation student meetings the contribution made by the two presenters has been continually reduced. No attempt is made to establish the credibility of the staff. Any credibility or justification must emerge from the activity itself - the students must feel that it serves their purposes, that it is worthwhile from their point of view. In the early days it was thought necessary to describe the purposes for which students' views of the course were being collected. This is no longer done in the belief that the less the students are told at the start and the more the information is drawn out by their own questioning, the more the power of the meeting lies in their own hands, the more they own the event. Conversely, the more the presenters talk, the more they seem to own the meeting. The more power the students perceive themselves to have, the more ready they are to accept the responsibility that goes with that power.

THE CONDUCT OF NEW PARADIGM RESEARCH.

On the list of pointers for the conduct of new paradigm research

Reason and Rowan (1981, p.433) state that:

- the atmosphere should be supportive, not evaluative. The support might come from one-to-one advising, support groups for specific

tasks, opportunity for community meetings, plus the commitment of the researcher (or Faculty) to the subjects as persons.

- there should be opportunities for informal exchange, between subjects, and between researcher and subjects.
- those studied should have the opportunity to report how they feel while they are being studied.
- guidance or help should be available if problems are unearthed during the questioning procedure.
- the collected materials (if not confidential) should be available for the subjects to look at.

□ In the student consultation meeting, the 3-stage procedure allowed privacy and time for individual reflection. This was followed by safe small group sharing of individual comments, and anonymity for authors of comments reported during the plenary session. Thus there was a no-risk exchange of views for the whole group.

□ There was also a protocol for dealing with praise and blame relating to individual staff. People to be praised could be named, and their qualities and achievements described. People to be criticised would not be named in the report and diplomatic routes would be sought to improve the faults identified by students.

□ Students always ask to see the report and course tutors provide course representatives with copies.

In new paradigm research, the raw data should be open to other interpretations and available for other uses. It should be useful

The characteristics of new paradigm research.

● Reason & Rowan -

not only for its original purpose, and comprehensible only to the original researcher.

□ In this thesis report, the appendix contains the typed verbatim record of all the points made by students. Though a great of work has been done in interpreting and categorising the replies, it is arguable that simply reading this extensive cumulative record is more illuminating than any summary or exegesis. The complete records exist for anyone, staff, student or stranger, to read, or for any researcher to use.

Max Elden (in Rowan & Reason, 1981, p.259) proposes a dialogue between researcher and subjects right through to the end of the research process, indeed particularly at the end of the research process. Both the subject and the researcher have their own special contribution to make.

□ When evaluation meetings were being held with students and they put forward a criticism, they were always asked: 'What should be done to avoid this problem? How could matters be improved?' Two purposes were served by passing the problems back to the students to solve. Firstly it often clarified what students actually meant by their complaint - their hidden meaning was often different and deeper than the surface or 'presenting' problem. Secondly, student attitudes became more realistic once they had to propose solutions themselves, and their solutions were often fresher and more

imaginative than staff remedies might have been. In this way the students are being asked to play the sort of role that one might expect a researcher to take - looking at the problems and suggesting solutions.

Strategies and techniques for use in new paradigm research

Gordon Allport (in 1981) suggests that some forms of human inquiry have not yet been fully explored and that we might reflect on the following possibilities:

1. Start with the individual, test our findings with many, and return to the individual for an in-depth test of our group findings.
2. Seek to restore the balance between what we are best at exploring - what makes people similar to one another - and what we are less able to do - what makes them different from one another.
3. Explore at three levels, working with the individual, the small group and the community or large group. We must move freely across these levels because findings in each one inform the other two.

□ The pyramid operates at these three levels.

4. Matching. Look for any records of personal expression that fit with other records of personal expression.

□ All summary sheets used the students' own words and phrases to help other students identify easily with ideas that were true for them. No research jargon was used, except in the Course Design/Peripheral Factors Sheet which attracted a degree of criticism,

The characteristics of new paradigm research.

● Reason & Rowan -

Gordon Allport believes that there are major foci for each individual and these can be found by looking for common themes in a large number of responses, or by allowing individuals to identify and select those adjectives that are personally relevant from a long list.

□ Students were encouraged to borrow items from their neighbours and from the whole group.)

Gordon Allport states that any researcher using the methods appropriate for new paradigm research must be alert to how well they function in three key areas:-

1. The philosophy of communication held by the researcher: she must value the students' own words.

□ The students words were retained.)

2. Relevance dissonance - do the questions 'rhyme' with the students' own interests and needs?

□ The students supplied their own agenda.

3. Criticality dissonance - the subjects may protect the researcher from knowing too much, because they fear what may happen if certain knowledge becomes public.

□ Protocols ensured anonymity and permitted free comment within the meeting room; the written running record was displayed and checked throughout the discussion. Names of staff censured were not included in the report.

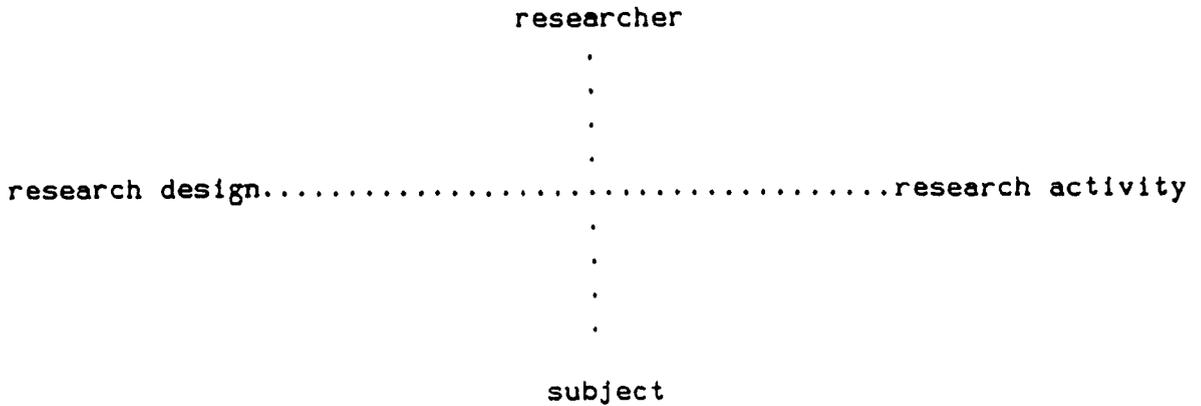
The characteristics of new paradigm research.

● Reason & Rowan -

Magoroh Maruyama (in Reason & Rowan, 1981, pp.229 - 230) describes the need for 'polyocular anthropology' to counter the 'monocular' or one-eyed viewpoint of a researcher. In particular, he writes of the value of endogenous or insider viewpoints and recommends the use, where possible, of insiders to conduct research investigations. He finds their lack of training a positive advantage because they have fresher, more insightful observation, and are not blinkered by preconceptions and prior expectations.

□ The Educational Development Unit is currently training student 'insiders' from the School of Computing and Information Systems to conduct their own course evaluation meetins.

John Heron (in Reason & Rowan, 1891, p.153 - 166) examines the matrix formed by the poles of research design/research activity, and researcher/subject. Traditionally in the physical science paradigm, the research/researcher design quadrant is strongly emphasised, as is the subject/research activity quadrant. Now he feels there is scope for strengthening the neglected areas of researcher/research activity, and subject/research design.



□ This research project concentrates on the researcher/research activity quadrant, and accepts the need for more involvement of students in the subject/research design quadrant. The procedure followed allows maximum freedom for students' own concerns to come to the surface.)

Clark Moustakas (in Reason & Rowan, 1981, pp.207 - 217) postulates that new paradigm research should involve the researcher experiencing profoundly the world that the subjects inhabit. Only from this firm grounding can the researcher proceed to examine this world. The time to read academic literature relating to the research topic is afterwards, at the conclusion of the research activity. If read in advance it may set up a framework so strong that it blinkers the researcher from observing things that without preconceptions she might otherwise see.

□ In the Foundation project, no prior hypothesis was made as to what students might or might not say about the project method. A single

open-ended question was used so that no distorting framework or agenda was offered to the students.

□ As the raw data has not been restricted or distorted by being cramped into a pre-existing framework, it may be looked at again and again and new insights gained by other, later researchers. For this reason new paradigm research is of much greater use than traditional questionnaires which elicit responses to narrow and specific questions, from which nothing additional and nothing different can be learned.

□ The research project yielded much that was unexpected. For example, that the degree of detail or specificity offered was much greater for person-centred learning conversations (A), and much less detailed and specific for learning conversations related to the environment and resources of learning (C). It was only possible to observe this difference because students were not restricted in the length of their replies, or guided as to the form in which they might be expressed.

Conclusion

John Rowan (Reason & Rowan, p.431) states that there are three questions that can be usefully put to find out how a research project is progressing. These questions centre on

- the person- the problem - the method.

□ These three questions are useful prompts not only for the researcher but for the subjects to use if they wish to see how the research is going from their point of view.)

It is believed that this thesis report presents a three-layered response to those three prompts:

- 1. the person - i.e. This research centred on the person's perception.
- 2. the problem - i.e. the project method itself; how the ingredients interact; how they can be managed creatively. This question was widened to include whole courses. What could be learned about the total educational experience of students that would enable more effective and satisfying courses to be designed?
- 3. the method - i.e. the inquiry procedure with Foundation was transferred into another arena (the arena of course evaluation) and tested extensively there. Though the method is listed last of the three dimensions, it underlies the other two: without an adequate method, the information gathered above might well be without value.

CHAPTER 4 . BACKGROUND TO THE FOUNDATION RESEARCH PROJECT

This chapter describes

- teaching background, personal interests, professional responsibilities and teaching commitments that influenced the choice of Foundation art students as subjects for research
 - teaching Art and Design students; aspects of art education that have a contribution to make to higher education generally.
 - educational development and working with staff.
 - definition of key terms.
 - conceptual models of project work.
-

One of the requirements of new paradigm research is that the researcher should declare her interests and answer the question:

"Where does this research come from?"

● TEACHING BACKGROUND

Over a long teaching career covering secondary school/further education/higher education, certain recurring patterns emerge: these concern what is taught and how it is taught.

What I have taught has centred on:

- current issues and problems whatever they might be :
social, political, environmental, cultural or racial.

Background to the research with Foundation students -

- studies of the means of communication -written, spoken, graphic. The principal study has always been of film, including documentary, experimental and animated film, but has also included video film, television, newspapers, novels, plays, poetry, music, art, design.

How I have taught over the years has usually involved:

- Project work and assignments and self-paced, self-organised tasks.
- information gathering from a wide variety of sources, including the outside world.
- opportunities for both individual and group work.
- the presentation of oral, written and visual materials to an audience of classmates and outsiders.
- self- and peer assessment in addition to teacher assessment.
- activities such as pair work to foster social and interpersonal relationships.

My professional responsibilities have frequently included study skills teaching, remedial work and educational counselling.

The political theory that has had the most enduring influence on my thinking is that which focuses on the extent of individual responsibility and power. Anarchist writers hold that no person should

have any more power and responsibility than they alone require for themselves. If they yield up this power to others acting on their behalf, they become reduced, impoverished, impotent. Conversely, those to whom they have yielded up their quota of responsibility and power become aggrandised, excessively empowered, distorted and ultimately corrupted. This is seen as a failure of a public and a private educational process. Those who relinquish their quota of power do not learn to utilise their own powers for good purposes. Those that gather to themselves the powers of others are not checked and monitored in the operation of those powers because those from whom they have plucked them are now enfeebled. It is well understood by anarchist writers that this view is an idealised view, and that some form of streamlining and practical delegation is required in modern society. But they believe that the practical gain is simultaneously a genuine loss, and a backward rather than forward step. (See Woodward, 1963, for an overview of the central assumptions of anarchist thinking, and the variations in it that have developed over time.)

This extent of individual power and responsibility in the classroom is a particularly acute problem. Many pupils leave education inadequately prepared to accept and use their powers outside. Within schools and colleges, many teachers exert undue power; others, particularly if they are struggling to escape from an authoritarian position, may become so permissive that they fail to carry out those responsibilities that they do have. (The influence that these two extremes have on the management of project work is discussed later in

the text). The distribution of power in the classroom is therefore always a consideration.

● TEACHING ART & DESIGN STUDENTS

In 1981, at the time of registering the thesis proposal, I had already been teaching for fourteen years at this Polytechnic, the majority of the courses were concerned with Film Studies. The group I knew best because I taught them for the greatest number of hours was Foundation Art and Design. Not only did they study films but they were encouraged to make small scale videos and films themselves.

But more influential than my own teaching duties in the decision to base the research in art and design education was my interest in the studio-based project work round which all the courses centred. The way in which the students' learning was managed seemed to hold important lessons for the rest of the Polytechnic, where most of the teaching was still done in formal lectures and in relatively formal seminars. Piper, (1969) states:

Some people believe that art schools can provide an alternative model of education to the mainstream academic studies which could help solve some problems in the provision of mass education for the over-16s. (Piper, 1969, p.13)

Piper continues, noting the neglect of that sense area of experience and activity known as covered by the right brain,:

University education in the humanities is based on language, literature and the intellect; visual and tactile sensitivity are almost totally ignored. (Black, 1969, p.45).

R. Christopher Jones(1969) finds that art education may be better suited to developing those social values that we so urgently need today:

We are living at the end of the humanistic and materialistic era which began in the Renaissance and we are confronted with the need for changes at least as great as those between mediaeval Christianity and Renaissance humanism. The chief agents of these changes are automatic production, the artificial personal and undisciplined life which it makes possible, and the mental and physical dangers and uncertainties to which it gives rise. (Jones, 1969, p.55).

The dangers to which this quotation refers are the same dangers that William Morris envisaged, and which he sought to overcome in a an art and craft based society where every individual was deeply involved in making objects of beauty and of utility.

By contrast with the formal teaching in lecture halls, the studio setting and atmosphere of art education, the informal tutoring, the constant interaction among the peer group, the use of an interim and final 'crit' for assessment (held in public) were all aspects of art and design education that were refreshing. This learning environment

seemed worthy of wider application, particularly in the more traditional subject disciplines in the Polytechnic. While there were problems in managing studio-based project work and it was not appropriate for all educational tasks, it did have useful lessons for developing student autonomy, for handling mixed-ability groups, for encouraging peer interaction and the development of support systems, and for providing an environment in which invention and creativity might flourish. Over many years of attending Art and Design degree and end-of-year shows, I was always impressed by the challenging and perceptive quality of the project briefs that had been set. It was no surprise that students found them stimulating and produced work of such a high standard.

It was significant that in Art and Design education, the project was not an extra task added on at the margins of an information-based course, but the principal vehicle teaching vehicle. Therefore the Foundation Art and Design course seemed an appropriate host for the research project and a suitable place to look closely at how students learned via the project method. (See Fig.1b for the Foundation course brochure which sets out its aims.)

It was also noticeable from a survey of journals relating to higher education and to art education that little research had been done into how art students learn, once they enter higher education. The aspect of art education that had received most attention was that of

Background to the research with Foundation students -

developing creativity (See de Bono, 1971; and Warren, 1969, for particularly comprehensive reviews of stimulating creative thinking and creative imagination.)

To sum up:

- the project method was chosen for study because it seemed to contain a particularly large number of the essential pre-conditions for learning. Findings would be of interest across the Polytechnic and not just to art courses.

● EDUCATIONAL DEVELOPMENT

I acquired new duties at the Polytechnic in the field of educational and staff development. In 1983, as Staff Tutor and later in 1985 as a founder member of the newly created Educational Development Unit, it was necessary to help staff adapt their teaching to new conditions. Examples of good practice were of great value in advising others.

The responsibility for educational development required one to be 'an agent of change' in an institution with a long-established but diverse culture, an institution facing accelerated and painful shifts in direction. This became another focus for the research: was there

Background to the research with Foundation students -

anything that could be learned from working with students that could be transferred to working with staff? It was found that the kind of relationship that one was able to develop with students, either when tutoring them in a project, or consulting them about their courses, was transferable and could be used successfully with staff in professional development activities. In particular, the Educational Development Unit did not tell anyone what to do, but encouraged staff to describe to one another in the peer group how they tackled problems. Lewin's brown bread discussion groups (Lewin, 1952) were just as useful for spreading educational innovation as for changing eating habits.

● DEFINITIONS OF KEY TERMS

The key terms in the following sentence were chosen to serve as a basis for the search in dictionaries and thesaurus.:

'How does the project method help art students to learn?'

Dictionary definitions.

It was proposed to pursue the word 'project' and any combinations including the word 'project' that might be offered, e.g., 'project work', 'project method'.

Background to the research with Foundation students -

The 1933 edition of the *Oxford English Dictionary* had no entry for 'project' except as a verb 'to project'.

However in the 1982 *Supplement to the Oxford English Dictionary* records there was a recorded use of the term 'project' in a educational setting as early as 1916, and other examples quoted show that the term had already acquired something of a history and was not newly coined on that occasion. :

'Some of us began using the word "project" to describe a unit of educative work in which the most prominent feature was some form of positive and concrete achievement.' 1916 D. SNEDDEN in *School & Society*.

The other examples revealed a variety of emphases:

' . . . a problematic act carried to completion in its natural setting' 1919. J.A. STEVENSON in *School Science & Mathematics*

' . . . the whole child responding to a situation; it is child activity.' 1924 *Progressive Education*

' . . . Children are encouraged to cope with the practical problems of life, and emphasis is laid on the "project" or collective enterprise.' 1938. *New Statesman*.

' . . . the teacher gives help only when and where necessary, since the basic principle of modern teaching is child activity and teacher guidance.' 1942 B. CLEMENTS et al. *Projects for Junior School: Teachers' Book*.

' . . . large scale projects on such topics as "Conservation" and "Pan-Americanism" [were] undertaken by many schools. . . as part of the curriculum.' 1961. CURTIS & BOULTWOOD. *Short History of Educational Ideas*.

The dictionary entries relating to the word 'project' when used in combination with another word (e.g. 'project method'), reveal a

further range of emphases. The first quotation - 1916 - suggests that the word has been around in educational circles long enough to have acquired its supporters and its detractors.

'The project method is nothing new, though the name often calls forth an attack . . . The story of every great invention is the story of a project.' 1916 J.C.MOORE in *School Science & Mathematics*.

'You defend then the term "project method"?'. . . 'If it be thought of as a purposeful way of treating children in order to stir the best in them, and then to trust them to themselves as much as possible, yes, I approve it.' 1925 W.H.KILPATRICK *Foundations of Method*.

'I am aware of the serious criticisms that have been made of the project method of teaching, but they seem to be based on a formless type of project'. 1943 H.READ *Education through Art*.

'After . . . 1914-18, Dewey's problem method was re-interpreted by W.H.Kilpatrick as the project method.' 1953 CURTIS & BOULTWOOD *Short History of Educational Ideas*.

The definition which is formulated by *A Supplement to the Oxford English Dictionary* (1982) for 'project' with reference to its educational use is as follows:

An exercise in which pupils are set to study a topic either independently or in co-operation, from observation and experiment as well as from books, over a period of time.

● THESAURUS DEFINITIONS (Roget)

The thesaurus definitions were particularly interesting when viewed against the overall system of categories employed. The concept heading under which the word 'project' was listed was that of 'undertaking' (Para.672). The broad concept of 'undertaking' was accompanied by four related concepts 'completion' (725) and 'non-completion' (726) and 'success' (727) and 'failure' (728).

These five broad concepts were all found within the Roget scheme in Section V : VOLITION . 'Project' lay within the Band II 'Prospective Volition' and the four related terms chosen lay within Band V 'Results of Action'.

This categorisation suggested that a project had strong connections with words such as 'intention', 'autonomy' and 'ownership'.

● CITATION INDEXES

A literature search was carried out for recent articles relevant to the question of how the project method helps art students to learn. The two indexes chosen were the *British Education Index* and the database ERIC. The latter had a majority of American entries but given that some of the dictionary definitions show a strong American tradition of project work, that was seen as appropriate. Each Index

had a thesaurus to assist in searching and the categories to which terms were assigned revealed the underlying conceptual and philosophical framework operated by the compilers of the Index. The framework was useful to compare with the collective 'definition' of project work composed from all the answers of the Foundation students.

● ERIC.

There were very few articles registered in ERIC that were concerned with both art education and student projects.

● British Education Index

The headings chosen under which to search for relevant articles in the *British Education Index* are given in the list below, together with the associated terms encountered under the headings.

Art Education

Higher Education

Learning Activities

- (Active learning)
- (Activity-based learning)
- (Activity-method)
- (Independent learning)
- (Self-teaching)
- (Mastery learning)
- (Peer teaching)

Learning Methods

Learning Skills

Learning Strategies

- (Holistic/Integrated)
- (Case Studies)

Projects(Learning Activities)

- (Topic work, assignments)

Student (and related words)

Teaching (and related words)

Group teaching

The *British Education Index* yielded more than 140 journal titles containing one or more articles relevant to the above topic. (See Appendix R for the complete list) But the number of articles covering project work in relation to art education in higher education was virtually nil.

One particularly interesting discovery in the literature search was a wealth of material on a near-relation of project work in the primary sector - topic work. Topic work is essentially theme based: all the class concentrates on 'water', or 'Brazil' for a term. All subject areas feed into, and from, this central concern and skills will be developed around it - reading from books, interpreting pictures, maps, charts, figures, watching television programmes, going on visits to places and museums.. Like project work, when it works well, it is excellent; but in inexperienced or unsure hands it can be a dreary obligation for pupils to copy out chunks from books. The topic work plays to those with writing skills and penalises those who lack them. But the many journal articles on topic work had salutary messages for those concerned to improve project work. They note the importance of planning ahead, of building in group activity, of including plenty of oral work, of designing appropriate interim and end point assessment, of varying the tasks, of training staff, of sharing examples of good

practice. (See Clough et al, 1985; Bradley, 1983, Kerry, 1984; Tann, 1987, Ghaye, 1986; Eggleston, 1984).

TOWARDS A DEFINITION OF PROJECT WORK

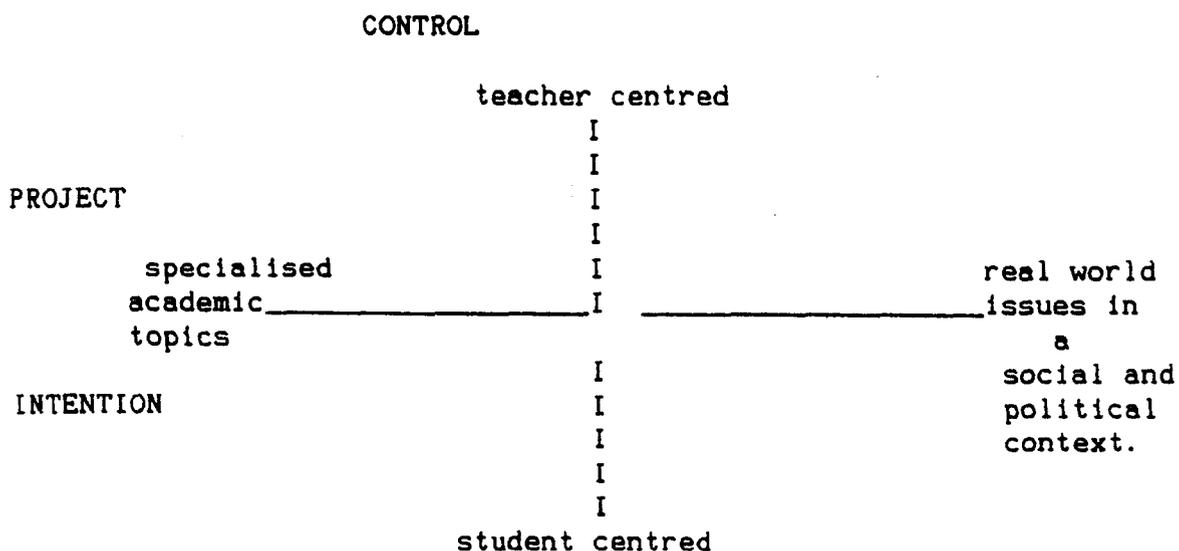
Alastair Morgan (1983) defines project based learning as

. . .an activity in which students develop an understanding of a topic or issue through some kind of involvement in an actual (or simulated) real-life problem or issue *and* in which they have some degree of responsibility for designing their learning activities.'

The cautious note introduced by the phrase 'some degree of responsibility' hides the fact that there are many examples of project-based learning which extend student autonomy to *what* is learned as much as to *how* it is learned. Any project that allows the student to identify the topic, to design the brief, is of this kind.

Alastair Morgan quotes Bernstein (Morgan, 1983, p.68) who identified two types of curriculum: a *collection* type, characterised by rigidly-organised but essentially separate units of knowledge, and an *integrated* type, in which loosely linked and organised units of knowledge are strongly united through being studied as a theme or topic.

Further insights can be gained by looking at the quadrants formed by the intersection of the following two continua (Morgan 1983 p.69). The first continuum is that of *project intention* which may be to foster detailed mastery of specialised academic topics, or at the other pole, to consider 'real world' issues in a social and political context. The second continuum indicates the degree of *control* exerted; at one end, the project is teacher centred, at the other end, student-centred. If the teacher is clear in which quadrant the intended project lies, there will be less danger of mixed and contradictory messages reaching students about the supposed and actual aims of the project.



A fundamental belief about the nature of learning that underlies the project is that learning is not just a case of absorption, it is of *transformation* - that is that all knowledge must be processed by the individual. Bruner (1961; 1977) developed cognitive theories about the nature of learning - that the learner is an active participant in the learning process, that he constructs hypotheses and tests them. These beliefs about the best and most powerful forms of learning align with the project intention of 'real issues' and real problems, and with the dimension of student control. Conversely, it is feared by proponents of humanistic psychology that formal teacher-controlled learning of an academic syllabus may result in impoverished and ineffective learning. In theme-based learning, students it is claimed that students will discover for themselves far more than they are taught; in academic and controlled teaching they may learn far less than they have been taught.

Morgan (1983.p.73) shows that Carl Rogers (1969) built on these ideas and established that the following pre-conditions were necessary for experiential learning to take place:

- that the topic must be relevant to the students,
- that there must be a removal of external threat, (such as that posed by some modes of assessment)
- that learning must be based on doing
- that learning must be personally involving.

Background to the research with Foundation students -

Morgan concludes that it is not sufficient simply to have a clear theoretical grasp of what is required for effective learning. It may be necessary to bring about certain changes:-

- in the teacher's role, from a one-way 'telling' to a two-way 'dialogue'
- in assessment, from focusing solely on *what* was learned to assessing *how* it was learned.
- in the degree of student autonomy, which may have been suppressed or eroded in earlier education
- in attitude to peer support, leading to the development of strong networks
- in the politically 'safe' academic standpoint, with a remote and supposedly neutral curriculum, to engagement in 'real world' issues which challenge the *status quo*.
- in the design of distance learning and correspondence teaching which may, in the interests of efficiency, be even more authoritarian and rigid than the most formal face-to-face lecture. (Some workbooks tell readers: 'Now turn over the page.')

□ These points discussed by Morgan all emerged in the Foundation students' perceptions of project work.

Background to the research with Foundation students -

Having read definitions of project work from these different sources, all compiled by experts, the composite 'definition' that emerges from the student attempts at defining 'project' makes impressive reading.

□ This group definition was compiled by sorting through the student definitions and adding to the growing list each phrase which introduced a new dimension. The resulting list of phrases was arranged into grammatical sequence until it formed a readable, meaningful sentence. The sentence therefore includes every idea that was proposed - none was suppressed or refused a place. The richness and comprehensive nature of the student definition is a tribute to the power of the group to produce something greater than could have been created by any individual, but which is at the same time a statement which every individual would recognise and acknowledge.

The group definition is given in full on the following page

PHRASES USED BY FOUNDATION STUDENTS TO DEFINE A PROJECT.

A personal exploration of your own choice of subject, or of
a given subject, with guidelines from the teacher ...,
set with a certain aim or goal...
answering a question...
solving a problem...
dealing with a particular or specialised topic, theme or idea...
requiring work and study, often in a block...,
involving discovering, researching information, collecting, accumulating...
using a variety of sources and considering various aspects...
discriminating, choosing, selecting and arranging in order, connected and relevant material...
observing, exploring, investigating in depth and in detail...
working alone, sometimes at home...,
or within a group...
using a logical thinking process...
and experimenting, testing and carrying out preparatory work...
in stages...
to create your own personal and original response...
in order to complete an end product, a final piece of work...
to reach a conclusion, find a solution, make a personal judgement...
about something that you did not know about before...
within a given length of time, to a set deadline...,
to broaden your outlook, to prepare you for your future work with art as your livelihood.

CHAPTER 6 : CONCEPTUAL MODELS OF PROJECT WORK

This chapter describes conceptual models of project work derived from the published proceedings of an international seminar at Bremen (*Project-Oriented in Higher Education* Cornwall and Schmithals, 1977). It then relates those models to experience of project work in different disciplines in Kingston Polytechnic. This chapter provides the conceptual models against which those volunteered by the students should be compared.

There are many different subordinate elements involved in any *portmanteau* concept such as the project method, and not all the elements will be present in any one practical example. In some cases, there are elements in one type of project which would be opposed by a proponent of another type, e.g., i.e. whether the choice of topic should rest with the student, or should be prescribed.

A personal list of the essential features of project work is as follows:

1. that it requires an end product, an artefact, an item, an object that is visible, tangible, demonstrable. It is significant that students almost always ask to keep their projects and perhaps take them to job interviews as proof of achievement. Students can always remember their projects in

great detail, whereas it fades rapidly for conventional coursework..

2. that it permits some freedom of choice for the student. This may include selecting the topic, deciding how to interpret it, planning the investigation, choosing materials, resolving a problem and reaching a conclusion.
3. that it requires independence and responsibility in the performance of the task. A great deal is involved in organising the various stages of the project, in collecting data, in discriminating between possible sources and references. The timetabling of the work programme, the sharing out of tasks, the framing of conclusions in time for a final presentation all make major demands of organising ability and time management.
4. that it provides opportunity for creative and original work. If the task is to provide a comprehensive survey of existing work, it is likely to be called an assignment or an essay, not a project.
5. that it entails new roles and relationships between students and staff. The lecturers become tutors, people who answer (rather than ask) questions, suggest resources, spot weaknesses. They no longer transmit information, ordain the framework, set the pace of what is done. Control lies (or

should lie) in the hands of the student. A change in the teaching role is accompanied by a change in the interpersonal relationships of the two parties, and in the balance of power between them. Some staff and some students feel very much at home in the new relationships, others do not.

6. that it requires new ways of relating among the students themselves. Co-operation and sharing of ideas arises naturally and because individuals or groups are engaged on separate and distinct tasks. the concept of cheating becomes a relic of a different mode of working. A competitive spirit may also be present in the co-operative working environment because each student will wish to do better than his fellows, but competition will not silence or inhibit the discussion and exchange of views, nor is it likely to be so exaggerated as to be disabling.

These are the characteristics I would expect to be present in a project.

THREE CONCEPTUAL MODELS OF THE PROJECT

Despite the very many possible permutations of the project, three distinct types were identified for a conference on the project method in higher education, held at Bremen. (Cornwall & Schmithals, 1977). The three types derive their classification from the academic purpose they serve.

What follows is a summary of the three models derived by Cornwall & Schmithals, much reduced, and with an added dimension: a description of how each type might be found within different subject disciplines across the Polytechnic. Condensed versions of these descriptions were used in Inquiry I with Foundation students as a basis for investigating the conceptual models they might hold.

Type A : Testing, Integrating and Applying Knowledge

This is the type of project found in the final year of a science-based or technology course.

It seeks to:

- to test the subject content taught during the course in a carefully structured way.
- staff will plan the projects and check their viability
- students will choose from a list of approved projects.
- the projects will usually be for individuals rather than for groups so that there will be no difficulties over awarding marks.
- The mark awarded must be defensible because it will contribute to the class of degree .
- Assessment is concerned with the end product rather than the on-going process.

Type B : Developing Communication and Inter-Personal Skills

This is the type of project found in business, management, social science or information technology degrees in which team work, interviewing skills, ability to relate to others, information gathering, questionnaire design, written and verbal presentation are essential tools of the trade. Staff and students share the attitude that these are skills that must be observed, practised and mastered.

- Over a period of time, more of the subjects in the course will be covered by project work.
- The projects will be set earlier and earlier in the course, in the first year, even in the induction period.
- The projects will be of varying lengths, and may be single subject or interdisciplinary.
- In the later years of the course, students will be encouraged to design their own projects and to check whether they are viable before embarking on them.
- Assessment will be as much concerned with process as with the end product. Some means will be found of rating the skills mentioned above.
- Assigning marks to the individual members of a group will not be a difficulty.
- There are more likely to be peer marking schemes to involve students in the assessment process.
-

The benefits of project work will be seen as a bonus, additional to the content, and without which the content cannot come alive, and cannot be applied. Therefore there will be a more relaxed attitude toward both project design and assessment. Innovative methods will be welcomed and adopted without strain.

Type C : Identifying, Working towards and Evaluating Personal

Learning Goals.

In this type of project, the choice of what to research is under the control of the student.

- The project offers the possibilities of high risk and of high achievement. It is open-ended - there is no ceiling to the quality that could be achieved.
- It is also high risk - the student is out there, very much alone, and could fail utterly. The student could feel stress at the responsibility he or she carries.
- The choice of topic will be in the hands of the student.
- He or she has to plan for all aspects of study and presentation - what he needs to know, how he can find out about it, what skills he needs.
- He may have to invent ways to demonstrate that he has achieved his goals.
- The student may tackle very large issues such as the

relationship of his discipline to some central moral, social or political problem of the time.

This is a huge philosophical leap from the two earlier forms, because what is at issue is not the subject matter of the course, or the skills that will be needed for a professional in the field, but the nature of the discipline itself. This profound relationship between a topic of study and the parent discipline itself should lie at the heart of education. As this type of project occupies a philosophical position and not an academic one, it can occur in any discipline.

The fact that this is an important and valuable type of project does not mean that it is always managed well, or is necessarily a valuable learning experience for the student. Staff may feel that it is sufficient that their heart is in the right place, and adopt a *laissez-faire* attitude which allows the student too much freedom. It is arguable that this type of project, mis-managed, or un-managed, has done much to bring project work into disrepute.

A new and different role is required of a tutor - that of enabler, facilitator, and resource guide. Above all, he/she will be the designer of systems that make it possible for the undertaking to be tackled effectively.

In this third type lie the greatest possibilities for success and the greatest possibilities for failure. The emotional needs of the first year student for structured, authoritative information giving, for right-or-wrong answers, for hard work to result in high marks, (see Perry, 1970, for an excellent list of these student needs) militates against the success of a self-managed learning task unless it is carefully and skillfully handled. The emotional needs of the staff can also be unmet - their detailed subject knowledge, their ability to explain, make sense of, relate, cross-reference, will all lack a theatre for performance. Staff will still be needed, and needed ten-fold, but in response to student demand, not as part of a formal programme which they can chart on a regular and predictable timetable across the academic year.

Therefore, having looked at these three very distinct types of project work, it was clear that working on them as students would result in three very different kinds of learning experience. This need to match the underlying model held by the teacher and the strategy chosen has been written about on many occasions. (See Watts & Bentley, 1986, on the need for methodological congruity.). What is needed is a sharing of models between teacher and taught and a discussion of the implication each model holds for the other.

CHAPTER 5 : INQUIRY I

Section 1. This section describes briefly the conduct of Inquiry I and proceeds to discuss in detail the responses to the separate questions on the questionnaire used with the Foundation group.

The students were asked to:

- give as definition of a project.
- say what their previous experience of project work had been.
- describe the best project they could remember
- describe the worst project they could remember
- identify the model of a project they thought was most appropriate for art education.

Section 2 discusses the difficulties encountered in categorising the material in the replies and lists the various levels of summary that were devised to perform this task.

Inquiry I was held within the first three days of the students' arrival in the Polytechnic. It was held in a large meeting room, almost all were present. The meeting was conducted with a friendly informality, and a low buzz of discussion took place as students filled in their questionnaires. Questions were occasionally raised and answered. So, though it was individual work, it was not done under strict, examination-like conditions. This was to encourage a good atmosphere within the room and a spirit of interest in the topic under discussion. (See Fig 9 for a copy of the questionnaire that was issued, and Fig 2 for an overview of the place of Inquiry I in the three meetings with Foundation students.).

Question 1

.Students were asked to give their own definitions of a project. They were asked this for a number of reasons.

- It was important to see if students had a different concept of what a project was than one that might be held by a member of staff.
- The abstract or conceptual dimension needed to be explored alongside the practical examples drawn from their past experience of best and worst projects.
- It was intended to elicit group composite definition, one that would be recognised by all, even if no single individual proposed it.

The full text of the definitions for each year group is regarded as the major resource. They are reproduced in Appendix A .

(A sample page of answers from one year group is given in Figure 10.)

The construction of this composite sentence was an attempt to make the wealth of words in some way visible. First all the phrases were analysed and clustered unto one long sentenc, i.e. put into grammatical sequence so that it was more comprehensible. Each item in the composite sentence was numbered and each student definition was read in turn and coded according to the numbering system. The coded

**PAGE
MISSING**

Fig. 9.

1. Definition of Project Work

How would you define project work to someone who had never encountered it?

Personal creative exploration originating from a set central theme evolving in a continuous and coherent direction. Project work involves voluntary research, particularly of original sources.

Where you are given a problem or a brief to which you have to find a solution. You do research, producing different ideas. You may use bits from all the ideas to form a solution, or just one idea, depending entirely on your own instinct and previous knowledge.

A set amount of time in which you work in one particular area, intended to make you learn more in that area.

A study on a given topic, a collection of information deeply researched.

Finding out for yourself instead of being told. Researching, analysing findings, presenting the results.

The research and gathering of information on a particular subject for the presentation of the information in a written or visual form.

Research, information gathering, putting sources of information together to get one result, either individually or in a group. Selecting appropriate material, or rejecting it.

The gathering and assimilation of material on a given subject, presenting it in a written, visual or audio form.

Thorough development of ideas in a chosen area - an exploration of the subject which can be in, and include, art forms / written work.

Analyse subject... series of drawings... stretch mind about ideas... consider possibilities... written work.

Expressing an idea through specific channels, development of ideas from rough to completed, finished work: presentation, systematic, visual, expressive, research, source material, understand briefing.

A detailed literary or perhaps visual study of a subject - could be to do with anything. Can include photographs, sketches, etc. Usually includes one's own ideas and is designed to make you really use those ideas.

- 1 -

Sample page of student definitions of project work : September 1986

FIGURE No.10

Inquiry I. Sample page of student definitions of project work: September 1986.

A personal exploration of your own choice of
 subject, or of
 a given subject, with guidelines from the
 teacher

 set with a certain aim or goal.....

 answering a question,.....

 solving a problem.....
 dealing with a particular or specialised
 topic, theme or idea,.....
 requiring work and study, often in a
 block.....
 involving discovering, collecting,
 accumulating, researching information.....
 using a variety of sources and considering
 various aspects,.....
 discriminating, choosing, selecting and
 arranging in order, connected and relevant
 material.....
 observing, exploring, investigating in depth
 and in detail.....
 working alone, sometimes at home,.....
 or within a group.....

 using a logical thinking process.....
 and experimenting, testing and carrying out
 preparatory work.....
 in stages.....
 to create your own personal and original
 response.....
 in order to complete an end product, a final
 piece of work.....
 to reach a conclusion, find a solution, make
 a personal judgement, to really learn.....

 about something that you did not know before
 within a given length of time, to a set
 deadline.....
 in order to broaden your outlook, to prepare
 you for your future work with art as your
 livelihood.....

FIGURE No. 11

Inquiry I. Composite definition of a project
 compiled from the responses of the group.

CHECKLIST OF KEY WORDS USED IN PROJECT DEFINITIONS : '85

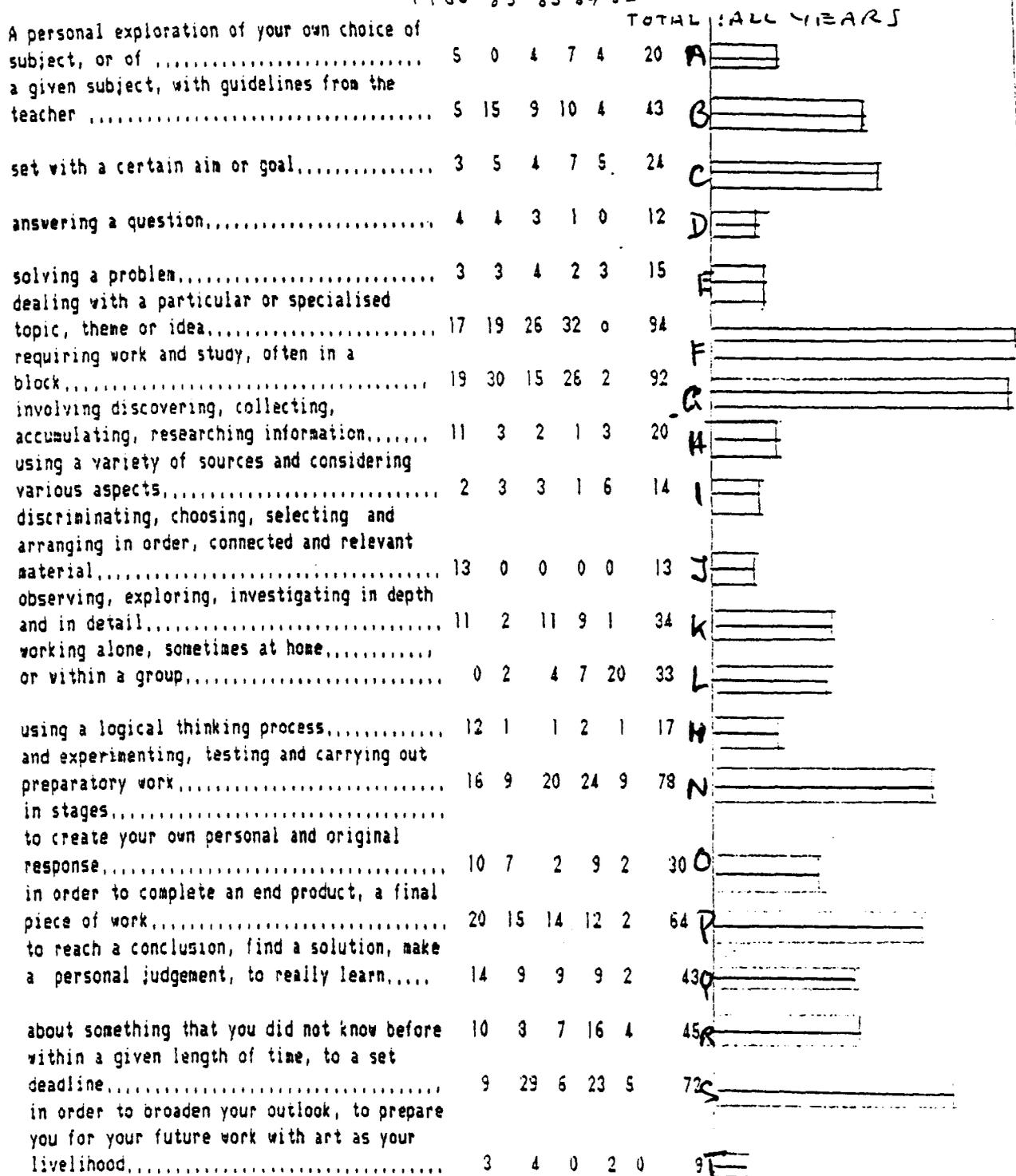
A given subject, with guidelines from the teacher ... ,
set with a certain aim or goal...
answering a question...
solving a problem...
dealing with a particular or specialised topic, theme or idea...
requiring work and study, often in a block... ,
involving discovering, collecting, accumulating, researching information...
using a variety of sources and considering various aspects...
discriminating, choosing, selecting and arranging in order, connected and relevant material...
observing, exploring, investigating in depth and in detail...
working alone, sometimes at home... ,
or within a group...
using a logical thinking process...
and experimenting, testing and carrying out preparatory work...
in stages...
to create your own personal and original response...
in order to complete an end product, a final piece of work...
to reach a conclusion, find a solution, make a personal judgement...
about something that you did not know about before...
within a given length of time, to a set deadline... ,
to broaden your outlook, to prepare you for your future work with art as your livelihood.

FIGURE No.11

Inquiry I. Composite definition of a project
compiled from the responses of the group.

NARROW' TERMS / KEY PHRASES USED IN PROJECT DEFINITIONS

1986 85 83 84 82



'Narrow' or finely differentiated terms used in definitions:

Totals for each year : representation of all 'mentions'

FIGURE No.12

Inquiry I. Count of characteristics of project work listed by students in their attempts to formulate a definition.

Key Phrases Used in Project Definition.

Total: All Years.

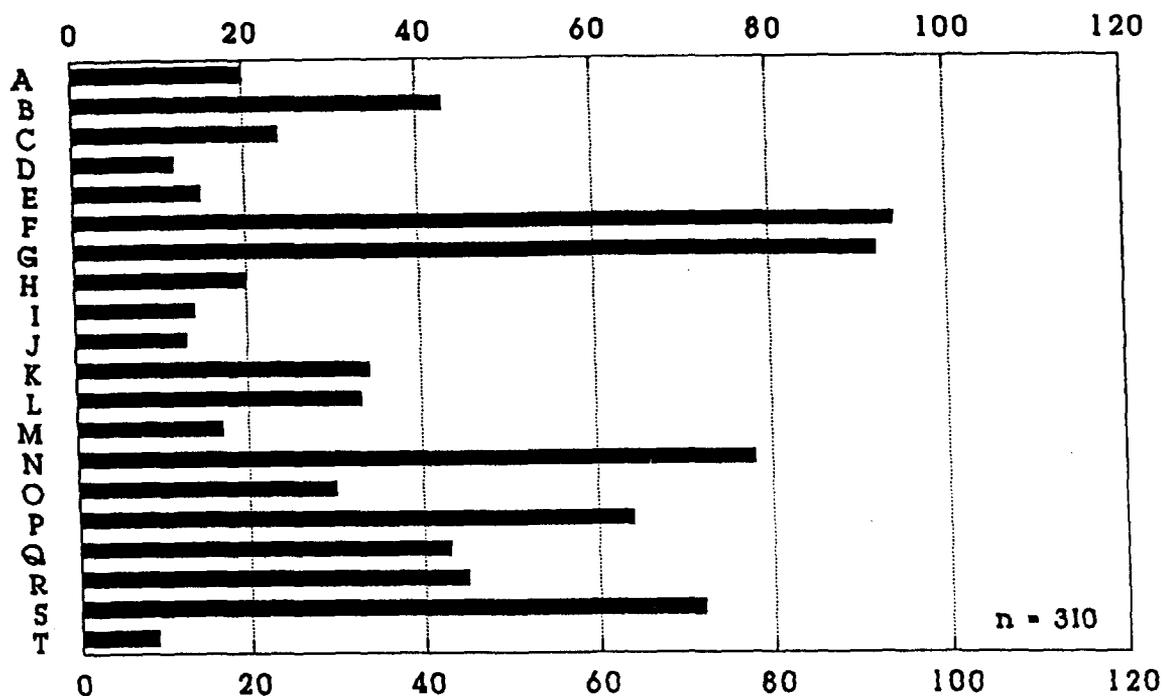


FIGURE No. 12

Inquiry I. Count of characteristics of project work listed by students in their attempts to formulate a definition.

ALL TERMS : KEY PHRASES USED IN PROJECT DEFINITIONS

A personal exploration of your own choice of subject, or of a given subject, with guidelines from the teacher set with a certain aim or goal,..... answering a question.....	21	84	20	318	
			43		
			24		
			12		
..... solving a problem..... dealing with a particular or specialised topic, theme or idea.....	5		15		
			94		
..... requiring work and study, often in a block... involving discovering, collecting, accumulating, researching information..... using a variety of sources and considering <i>VARIOUS ASPECTS</i> ,..... discriminating, choosing, selecting and arranging in order, connected and relevant material.....	108		92	247	
			20		
			14		
			13		
..... observing, exploring, investigating in depth and in detail..... working alone, sometimes at home..... or within a group.....	2		34	186	
			14		33
					17
			8		78
..... to create your own personal and original response..... in order to complete an end product, a final piece of work.....	12		30	218	
					64
					43
..... to reach a conclusion, find a solution, make a personal judgement, to really learn,.... about something that you did not know before within a given length of time, to a set deadline.....	2		7		
			45		
..... in order to broaden your outlook, to prepare you for your future work with art as your livelihood.....			9		

FIGURE No. 12

Inquiry I. Count of characteristics of project work listed by students in their attempts to formulate a definition.

TABLE SHOWING DEGREE OF DIFFERENTIATION

82 - 3	3	1	85
<hr/>			
83 - 4	1	36	35
<hr/>			
84 - 5		10	32
<hr/>			
85 - 6	3	29	32
<hr/>			
86 - 7		39	62
<hr/>			

FIGURE No. 13

Inquiry 1. Degree to which elements in student definitions were narrow (finely differentiated) or broad in scope.

items were counted and it was therefore possible to total the number of mentions for any given item. (Fig. 12)

The numbers on this table (Fig. 12) do not present a complete picture because many of the terms were not used as single items by the students. Rather, they chose broader terms which encompassed two, three or more of the points itemised in the composite sentence definition. To get a more complete picture, a global map was necessary showing the distribution of all items. (Figure 13)

However, it was not possible to add broadly defined terms to narrowly defined terms. The broad terms might look as if they have more weight, and should be worth more, but they still, in the student's eyes, constitute only one mention and do not justify any additional weighting. Therefore they are presented in a table that attempts a visual equivalent of the state of subdivision.

This factor - of broad and narrow items - recurred throughout the Inquiry responses.

If one looks therefore at the global table of all elements we can see that there is no overlap between certain broad category bands. This was probably due to the grammatical basis of the construction of the sentence. Perhaps also this was due to its logical sequence, placing project tasks in the order in which they are encountered.

It can be seen that from this table the four broad 'ingredients' of project work are

	Number of 'mentions'
1. the task	318
2. the work toward that task	247
3. the experimental, or trial-and-error, nature of that work,	186
4. the end product.	218

(These numbers are culled from all years, and do not constitute added numbers, rather mentions represented on a global map.)

It should be noted that in this requirement to think in abstract terms about project work, there results an emphasis in the answers on project design, or the system which is in operation. Later on in the research project, this became known within the framework of the learning conversation as a Type B classification. One of the beliefs of this thesis is that the style of answer is dependent on the framing of the question. In this case, ask a Type B question and you will get a Type B answer. However if you ask a different question from a different perspective, you will get a different answer. This is the rationale for including as many different perspectives as possible.

Question 2. Previous Experience of Project Work

This was merely trying to discover to what extent students were familiar with project work. One interesting and unexpected result was that students from abroad, particularly from Europe had no experience whatsoever of project work and asked to have it explained to them to them. Every year, by chance, a European was present, and the opportunity arose for a practical exercise in framing a definition.

The task was designed so that students would search their memories for all the projects they could remember, including those in their primary years. The requirement to search through one's memory to answer the question prepared the ground for very full recall when it came to the following question, on best and worst projects.

The resulting information is summarised in Fig.14. The first year (1982-30) is atypical because the questions were laid out differently in subsequent years.

It is evident that Secondary/Individual (i.e. an individual project conducted during secondary school) is the category with most representations, and as the largest category, is host to the greatest number both of good and of bad project experiences.

Question 3 The characteristics of best projects.

Experience of projects in secondary school

frequently :
fairly often :
rarely :
never :

Experience of projects in primary school

frequently :
fairly often :
rarely :
never :

Type of projects

Individual :
Group :
Roughly equal numbers of each type :

Examples of best projects encountered :-

primary school :
secondary school :
higher education :
outside school :

individual :
group :

Examples of worst projects encountered :-

primary school :
secondary school :
further education :
outside school :

individual :
group :

Experience of projects in secondary school

frequently :
fairly often :
rarely :
never :

Experience of projects in primary school

frequently :
fairly often :
rarely :
never :

Type of projects

Individual :
Group :
Roughly equal numbers of each type :

Examples of best projects encountered :-

primary school :
secondary school :
higher education :
outside school :

individual :
group :

Examples of worst projects encountered :-

primary school :
secondary school :
further education :
outside school :

individual :
group :

Experience of projects in secondary school

frequently :
fairly often :
rarely :
never :

Experience of projects in primary school

frequently :
fairly often :
rarely :
never :

Type of projects

Individual :
Group :
Roughly equal numbers of each type :

Examples of best projects encountered :-

primary school :
secondary school :
higher education :
outside school :

individual :
group :

Examples of worst projects encountered :-

primary school :
secondary school :
further education :
outside school :

individual :
group :

Experience of projects in secondary school

N/A

frequently :
fairly often :
rarely :
never :

Experience of projects in primary school

N/A

frequently :
fairly often :
rarely :
never :

Type of projects

Individual :
Group :
Roughly equal numbers of each type :

Examples of best projects encountered :-

primary school :
secondary school :
higher education :
outside school :

individual :
group :

Examples of worst projects encountered :-

primary school :
secondary school :
further education :
outside school :

individual :
group :

FIGURE No. 14.

Inquiry I. Previous experience of project work: 4 sample years.

When asked to give a thumbnail sketch of the best project they can remember, students wrote astonishingly vivid and detailed accounts. The replies to this question, and to the one asking about their worst projects, were astonishingly rich. To an extent it unbalanced the research project. There was more in here than was expected, and all the real thinking and analysing in order to identify categories was done at this stage.

The students remember their initial interest and excitement in exploring new and unfamiliar territory: they were curious, astonished, impressed, explorers of new fields.

- They recall gradually achieving technical mastery of media and materials,
- They had time and space to develop different aspects of their subject and see it in the round, from every angle, as a complete whole.
- They mention deriving aesthetic and creative satisfaction from their work,
- They recall the pleasure of developing their own ideas, of planning and organising their work schedule,
- They increase their store of knowledge from plentiful materials and enjoy the feeling of really learning about something in depth.
- Finally they acknowledge the satisfaction of producing an end

product presented well. They have met their own high standards and achieved the standards set by others.

It is often difficult to unpack some of the words they use so frequently. How exactly is their 'interest' kindled? And conversely (in the paragraphs on the worst project) why is their interest not kindled?) It was for this reason that they were asked to describe actual projects they had experienced, so that from the detail some of these points could be pursued.

A large number of examples of student replies are quoted because it is believed that the answers to these two questions (on best and worst project), have much to tell us because they are based on concrete experience. It was judged better at this first meeting to ask for actual case histories than generalised but unsubstantiated statements on project work.

Inquiry II, held in the middle of the academic year and focusing on current project work, was planned as the central research event, but these replies in Inquiry I were in many ways more vivid and revealing than the more abstract and generalised statements made in Inquiry II.

The following extensive quotations give some idea of the richness of the responses.

One was amazed to work individually and to become totally involved with ideas and formation - ample time to work on several ideas, not just one - which contributed eventually to the finished design. (1982)

...members of the team co-operating triumphantly... end result... public performance... (1982)

Enjoyed working alone, doing exactly what I wanted (1982)

New and exciting places to visit.... element of surprise....easy friendly atmosphere.... (1982)

The project was an acclaimed success (1982)

History study. The Berlin airlift. It was an assignment conveying the intensity of the Berlin airlift from 1947-48. Not only did it report the physical strife but also the intensity of the political situation between Russia and the Allies resulting in bad relations between East and West. Success was subject to the wide expansion and detailed references and illustrations. (1983)

Advertising. Poster advertising in the 1920's and 1930's. Successful because became involved, worked on own and found recent information at contemporary galleries and information in articles therefore rewarding and a fascinating and relevant subject area. (1983)

O level English project. Art as Therapy. Art with the mentally-handicapped. [This was] successful for me because I came into contact with the mentally-handicapped for a prolonged time which I had not done before. It was also one of the first things I did within my education which was not rooted in a teacher's instructions but in my own investigation. (1984)

Artists' effect on society. Subject : French adult comic strips. Bought the comics for a few months, read them, categorised the subjects that came up - ie. sex, violence, male dominance, and related them to what was happening in the society of today. Had to have a background. The whole thing was interesting, lively, due to reading comic strips. Was successful because it didn't get out of hand. Fascinating subject matter. End result was interesting to read and taught something to anyone who read it." (1984)

Sociology. What I enjoyed most about this project was that it was totally personal and although I hate discussion and avoid it whenever possible, my enthusiasm developed through discussion with the group / tutor and myself and the tutor. I felt confident in myself and my project. The project began as a sociological project to an objective sculptural interpretation of our discovery - and personal opinion on the subject topic. (1984)

Photography. To take a series of photographs with the title - environment. This was totally individual ie. no tutorial help. I had to inspire myself and develop my own ideas. At first I had to change my initial idea and start again. I was worried about this at first but this made me work harder and more quickly and made me consider my own environment with greater depth. This may have been more successful because I was left on my own to do this project. This made me work harder and think more which although hard work, gave me greater personal satisfaction in the finished product as I had put more of myself into it.. (1984)

Geography. Project: investigating the landscape and its evolution. Practical field work - going out and measuring, drawing and noting down the types of vegetation, types of land forms, etc. List given by school indicating what we had to look for. Although we worked on our own, there were friends nearby. The illustration to the project was important as were labelled diagrams because these conveyed the results visually and effectively. The variety of information and the ways of conveying this gave variety which was important. I preferred to work on my own as I could work when I wanted to and wasn't hampered by other people.. (1984)

A level Classical Civilization. Dissertation on old and modern production of Ancient Greek Theatre. I had an interest in the theatre to begin with, and Greek theatre especially. The trouble I had starting the writing meant that it was extra satisfying when I started enjoying it and it began to come together. The illustrations and presentation I left until the end and then worked well and the whole thing was brought together then.. The tutor (with whom I didn't get on at all) told me outright that it wasn't good - it was unscholarly and she didn't like my ideas and opinions. So when I got an A, I got quite a lot of perverse pleasure!! I went to talk to two people at the National Theatre who had been involved (designer, director) in recent productions of Greek theatre which gave me a good basis for this work. (1985)

Art. Decorations on a large scale for a school hall. An exciting, imaginative theme, full of scope. Lots of people involved, with work available for all interests and levels. Good organisation. Lots of equipment and materials available -

not necessarily expensive. A range of age levels involved. A definite goal. A reputation to uphold. (1985)

Art. A study of an Edward Burra painting in which I did my own version of the painting - very enjoyable and personally satisfying. I chose the painting, made several copies of it, and made my own sketches, using friends as models, re-arranged the painting and produced a final painting consisting of different models in slightly different poses but in the same vein as the original painting. This gave me a chance to learn about an artist and to experiment with paints.. (1986)

Biology. Short term ecology project. Field study in groups but actual collation was individual, extremely well-prepared in classroom, and in subsequent follow-up work. Also rigorous, so satisfying when concluding project. Actual fieldwork was in a relaxed but rigorous atmosphere which was both enjoyable and gave a good working environment.. (1986)

Design. Personal project used for National Graphics Exhibition. A computer graphics animated film, taking one through the eye and into the mind. The brief was fairly open and there was room for imaginative design. Use of modern 'paint box' computer systems was very exciting. (1986)

Lastly for light relief, the reasons that a project was particularly memorable might be amusing and unexpected and not at all what the serious teacher planned.

History. I was thirteen. A history project at school. I and three friends decided to make an execution while others made stained glass cardboard boxes and models of Thomas More out of pipe-cleaners! So we borrowed a shop dummy from Debenhams, dressed him in black, made an axe, and a papier-mache head and on the day of Open Day covered everything in tomato ketchup. It was great and stood out and we got into trouble but the crowds loved it. (1984)

Preparing to classify the answers.

These detailed descriptions were coded on to the same score sheet of categories that was used for Inquiry II. (see Fig. 15) That way it was hoped to look at the results of Inquiry I (based on personal experience of projects in the past, in school-based education) to see if they mapped on to the individual elements of Inquiry II (based on the current experience of project work - i.e. in the present, in higher education). Figure 16 shows the score sheet further extended to show the broad categories of the 'Learning Conversation' alongside the finely differentiated items..

DEGREES OF SUMMARISATION

It was decided to look for a series of categories and sub-categories that would allow different insights according to the degree of detail or overview that each offered.

I. 1 category.

There was one all embracing category that would apply to every item. This category was not merely a catch-all, but had to define the elements in some useful and important way.

•Level I was therefore called the 'Learning Conversation' on the grounds that every item was 'in conversation' with the subject: what was being counted were interactions.

A1 a i Awareness of own interests, interest in subject
A1 a ii Awareness of own talent
A1 b Awareness of personal growth, change, individuality
A1 c Self-discipline, control, responsibility, drive,
A1 d Self-assessment, achievement, success, satisfaction
A1 e Ambition to excel, motivation, enthusiasm, enjoyment, challenge
A1 f Left alone to solve own problems, research, discovery
A1 g Self-expression, explain and develop ideas
A1 h Money, getting a job, getting a degree
A1 i Empathy with subject, emotional involvement
A1 j Using one's previous experience

A2 a Observation of how others work
A2 b Discussion with others
A2 c Co-operation with others, sharing ideas,
A2 d Use of others as yardstick
A2 e Competition with others
A2 f Small groups of people to work with
A2 g Good social life
A2 h Disciplined, creative, relaxed atmosphere
A2 i Altruism, helping others
A2 j Group working well, competent at tasks

A3 a Instruction and tutoring to develop ideas
A3 b Tutors as demonstrators/exemplars of skills
A3 c Accessible help and advice, one to one
A3 d Friendly relationship, interest, encouragement
A3 e Diversity of tutors with varying experience
A3 f Visiting experts bringing fresh approach
A3 g Help and advice from technicians, arguing with them
A3 h Help with research from tutors, librarians
A3 i Parental enthusiasm, support of family and friends
A3 j High mark awarded, or similar recognition

B1 a Clear instructions
B1 b Stated purpose or goal
B1 c Brief acts as starting point or inspiration
B1 d Limitations or restrictions on materials, rigorous guidelines
B1 e Interim crit on work, constructive criticism
B1 f End product to be created
B1 g Deadline, no time to be bored, forces discipline
B1 h Final crit on overall achievement
B1 i Study of a topic as a complete whole
B1 j Compulsory signing-in
B1 k Forced to try new things

FIGURE No. 15

Inquiry I. Score sheet of categories used to code items describing best and worst projects.

B2 a Freedom to interpret brief broadly
B2 b Many routes to goal, different approaches
B2 c Use of a variety of materials possible
B2 d Timetable flexible, time for work, research,
B2 e Experiment, mistakes, fresh start, rough drafts,
B2 f Form of end product not prescribed
B2 g Can state one's case in crit
B2 h Plenty of time, can stick to one subject, constantly working, even at
home

B3 a Variety of projects set
B3 b Graduated projects leading towards increased specialisation
B3 c Doing Art all the time concentrates ideas
B3 d Compulsory nature of first term
B3 e Change of project work after formal teaching

C1 a Discovering materials, plentiful, good, new
C1 b Developing skills in handling them
C1 c Learning new techniques for handling them
C1 d Using materials to express ideas
C1 e Creating a unique end product, good presentation
C1 f Experience and expertise, developing skills
C1 g Producing something 'real'

C2 a Examples (of artists' work) in shows, galleries, museums
C2 b Illustrations (of artists's work) in books, slides, in libraries
C2 c Critical commentaries (on artists' work), reference works, textbooks
C2 d Materials drawn from other arts/fields-eg music, film, theatre, (History of Art)
C2 e Study of the man-made environment
C2 f Study of the natural environment
C2 g Taught to look at things in a new way
C2 h Research into materials in the outside world

C3 a Technical facilities, photographic, etc
C3 b Equipment
C3 c Libraries
C3 d Access to a variety of media

C4 a Space in studio
C4 b Flexible layout, good working environment
C4 c The college environment
C4 d Exploration of local environment, finding new and interesting aspects
C4 e Exploration of unfamiliar distant environments, at home, abroad, and
in other periods in time

I	II	III	IV
			.A1 a i Awareness of own interests
			.A1 a ii Awareness of own talent
			.A1 b Awareness of personal growth, change, individuality
		A 1	.A1 c Self-discipline, control, responsibility, drive,
			.A1 d Self-assessment
	A	Self	.A1 e Ambition to excel, motivation, enthusiasm
			A1 f Left alone to solve own problems, research
			A1 g Self-expression, explain and develop ideas
			A1 h Money, getting a job, getting a degree
	with		A1 i Empathy with subject
L			A1 j Using one's previous experience
E	PEOPLE		
		A 2	.A2 a Observation of how others work
A			.A2 b Discussion with others
			.A2 c Co-operation with others, sharing ideas.
E	R		.A2 d Use of others as yardstick
		Peer	.A2.e Competition with others
L	N		A2 f Small groups of people to work with
			A2 g Good social life
E	I		A2 h Disciplined, creative, relaxed atmosphere
			A2 i Altruism, helping others
M	N		A2 j Group working well, competent at tasks
E	G		
		A 3	.A3 a Instruction and tutoring to develop ideas
N			.A3 b Tutors as demonstrators/exemplars of skills
			.A3 c Accessible help and advice, one to one
			.A3 d Friendly relationship, interest, encouragement
T		Tutor	.A3 e Diversity of tutors with varying experience
			.A3 f Visiting experts bringing fresh approach
S			.A3 g Help and advice from technicians, arguing with them
			A3 h Help with research from tutors, librarians
			A3 i Parental enthusiasm, support of family and friends
		B 1	.B1 a Clear instructions
			.B1 b Stated purpose or goal
C			.B1 c Brief acts as starting point or inspiration
		Project Brief	.B1 d Limitations or restrictions on materials
O			.B1 e Interim crit on work, constructive criticism
	B		.B1 f End product to be created
N		(Closed)	.B1 g Deadline, no time to be bored, forces discipline
			.B1 h Final crit on overall achievement
V	with		.B1 i No social life
			B1 j Compulsory signing-in
E			B1 k Forced to try new things
R			.B2 a Freedom to interpret brief broadly
	COURSE		.B2 b Many routes to goal, different approaches
S		B 2	.B2 c Use of a variety of materials possible
	SYSTEMS		.B2 d Timetable flexible, time for work, research,
A		Project Brief	.B2 e Experiment, mistakes, fresh start, rough drafts,
			.B2 f Form of end product not prescribed

FIGURE No. 16

Inquiry I. Score sheet (Fig. 15) overlaid with the three principal types of learning conversation A, B & C, and further sub-divisions of those three types.

T	(Open)	.B2 g Can state one's case in crit
I		.B2 h Given plenty of time, can stick to one subject, constantly working, even at home
O		
N	B 3	.B3 a Variety of projects set
		.B3 b Graduated projects leading towards increased specialisation
	Project Series	.B3 c Doing Art all the time concentrates ideas
		.B3 d Compulsory nature of first term
		.B3 e Change of project work after formal teaching
	C 1	.C1 a Discovering materials, plentiful, good, new
with	Physical	.C1 b Developing skills in handling them
		.C1 c Learning new techniques for handling them
		.C1 d Using materials to express ideas
RESOURCES	Materials	.C1 e Creating a unique end product, good presentation
		.C1 f experience and expertise, developing skills
	C 2	.C2 a Examples of artists' work in shows, galleries, museums
		.C2 b Illustrations of artists's work in books, slides, in libraries
	Research	.C2 c Critical commentaries on artists' work
		.C2 d Other arts -eg music, film, theatre, History of Art
	Materials	.C2 e Objects in the man-made environment
		.C2 f Objects in the natural environment
		.C2 g Taught to look at things in a new way
		.C2 h Research into materials in the outside world
	C 3	.C3 a Technical facilities, photographic, etc
		.C3 b Equipment
	Facilities	.C3 c Libraries
		.C3 d Access to a variety of media
	C 4	.C4 a Space in studio
		.C4 b Flexible layout, good working environment
	Environment	.C4 c The college environment
		.C4 d The local environment, new and interesting aspects of,
	and Space	.C4 e The capital city environment, national, foreign, other periods in history

FIGURE No. 16

Inquiry I. Score sheet (Fig. 15) overlaid with the three principal types of learning conversation A, B & C, and further sub-divisions of those three types.

II. 3 categories.

The interactions were subdivided into three groups:

- those taking place between people;
- those taking place between systems;
- those taking place between physical resources.

III. 10 categories.

The three groups were subdivided further:

people included:

- self.
- peers.
- tutors.

systems included:

- closed systems which limited and constrained the scope.
- open systems which offered unlimited freedom.
- serial systems, i.e. the same system repeated offering chance to improve.

physical resources included:

- physical materials.
- research materials and resources.
- facilities, workshops, specialist equipment.
- physical environment and setting: college, town, city, country.

1V. 80 categories.

the 10 subdivisions were divided into from between 4 and 11 further subordinate categories. The full list is given in Fig.15..

The tables that resulted when the student responses were coded are shown in Fig.17, 19, 20a, b, c, d, e, & 21.) A selection of graphs has been prepared to accompany the tables to make visible some of the numerical distributions.

As one advances deeper into the detailed sub-categories to see exactly what the respondents mean or as one retreats in order to get an overall perspective, the information offered by these tables is of enormous interest. The implications of what the students say is far-reaching and will be discussed in a later chapter. But the tables and graphs are presented in this chapter, alongside the quotations in order that the two methods of reporting complement each others.

The characteristics of worst projects

It is often said that we learn more from failure than from success. When things go right, they are invisible. 'One only feels the shoe where it pinches...' is an appropriate expression to bear in mind as

I	II	IV	,Al a i
	A	A 1	,A1 a ii
with	Self		,A1 b
			,A1 c
			,A1 d
			,A1 e
			A1 f
			A1 g
			A1 h
			A1 i
			A1 j
	L PEOPLE	A 2	,A2 a
			,A2 b
			,A2 c
E	E		,A2 d
		Peer	,A2 e
L	A		A2 f
			A2 g
E	R		A2 h
			A2 i
M	N		A2 j
			,A3 a
E	I	A 3	,A3 b
			,A3 c
N	N		,A3 d
		Tutor	,A3 e
T	G		,A3 f
			,A3 g
S			A3 h
			A3 i
			A3 j
			,B1 a
		B 1	,B1 b
	C		,B1 c
			,B1 d
	D	Project Brief	,B1 e
	B		,B1 f
		(Closed)	,B1 g
			,B1 h
	V with		,B1 j
			B1 k
			,B2 a
	R COURSE		,B2 b
		B 2	,B2 c
	S SYSTEMS		,B2 d
		Project Brief	,B2 e
			,B2 f
	A	(Open)	,B2 g
	T		B2 h

FIGURE No.16

Inquiry I. Score sheet (Fig.15) overlaid with the three principal types of learning conversation A, B & C, and further sub-divisions of those three types.

I			
		B 3	.B3 a
O			.B3 b
		Project Series	B3 c
N			B3 d
			B3 e
		C 1	. C1 a
N	with		.C1 b
		Physical	. C1 c
			. C1 d
RESOURCES		Materials	. C1 e
			. C1 f
			C1 g
			. C2 a
		C 2	. C2 b
			. C2 c
		Research	. C2 d
			. C2 e
		Materials	. C2 f
			C2 g
			C2 h
		C 3	.C3 a
			. C3 b
		Facilities	. C3 c
			. C3 d
		C 4	. C4 a
			. C4 b
		Environment	. C4 c
			. C4 d
		and Space	. C4 e

FIGURE No.16

Inquiry I. Score sheet (Fig.15) overlaid with the three principal types of learning conversation A, B & C, and further sub-divisions of those three types.

one reads the students' descriptions of the worst projects they can remember.

The intention in asking this question was to make a comparison between the characteristics of good projects and those of bad projects. Could they perhaps map on to each other 'back-to-back'? In the event, this back-to-back representation proved difficult because there were a variety of possible opposites to the good characteristics. It was expected that the worst projects were perhaps lacking in those qualities identified in the best projects, or perhaps possessed the characteristics in excessive amounts. One could say that the opposite of good could either be the absence of good qualities or the presence of bad characteristics.

When it came to assigning the characteristics of worst projects into the categories already established for the best projects, it was found therefore necessary to seek the parallel domain and not the logical opposite element. By matching the domain rather than the element itself, it was then possible to determine whether negative factors inhabited one domain rather than another. It was usually straightforward to decide in which domain each item resided at Level I - A, B or C - and one continued on down through Level 2 (10 categories and on finally to the 80 possible categories of Level IV.)

Ultimately, the design and delivery of the project method depends on a subtle blend of multiple ingredients combined with skill and art (in the way that the same ingredients can be found in both a failed and in a successful cake). Elements need to be combined in certain proportions, sequence, timing, and combined with flair. Only continuous reflection, monitoring and evaluation exercises can help staff to identify those subtle adjustments to their management of projects that will ensure success.

Before discussing in detail the back-to-back tables which display best and worst characteristics on the same sheet, there are some overall statements to be made on the total collection of students' comments on their 'worst project'.

- In all of the five years of gathering data in Session I, less was written about remembered worst projects than about remembered best projects.

- This makes an interesting contrast with the comments made by students during the Student Consultation Meetings. At these meetings, more critical comments than positive ones are offered, and this has led to the assumption that 'one only feels the shoe where it pinches'. The tendency to notice negative rather than positive qualities at these meetings might result from the students' expectations of the outcome of the course meeting: the form of words asks them to describe their experience of the course' and it is obviously in their interests to concentrate on those things that

something can be done to change. Whereas, in the case of the Foundation students, their school projects are now past history and there is no question of change.

Other possible reasons for the smaller quantity of comment are:

- that the students are tiring of writing and write less for a later question.
- that memory fades for an experience of poor quality but remains bright for an enjoyable and satisfying experience. (The frequent comment 'was not interested' may equate with 'and therefore not remembered')
- that there are fewer bad projects than good in primary and secondary education; that perhaps the project method itself is more likely to yield good than bad experiences. So good memories predominate. (Some students actually say they cannot remember a bad project.)
- It could also be that there are fewer bad projects than there are bad lectures, bad seminars and bad laboratory classes.

But the most interesting finding is that, detail for detail, in the worst projects there are Level IV parallels to the items so lauded in the context of best projects.

- The characteristics for which best projects are praised can be very similar to those characteristics for which they are blamed in worst

projects. This matching indicates significant areas for attention by staff and a sensitive awareness that the right balance must be struck.

- Independence becomes 'too much on my own', or 'lack of guidance'.
- A welcome 'challenge' may be 'too demanding' in excess.
- The brief, praised for its clarity and detail in 'best' projects becomes a strait-jacket in the 'worst', driving out individuality.
- Frequently mentioned and most difficult of all to define - 'lack of interest' (on the part of the student) and its counterpart, lack of enthusiasm (on the part of the teacher).
- Some projects are doomed from the outset because the artefact is based on a faulty principle of design or of construction - boats sink, beds collapse, cars are too heavy for their axles.
- Ideological or ethical objections destroy motivation: the distress caused by having to kill and dissect living creatures in Biology.
- Repetitive tasks may be welcomed for the practice they entail, or may be pronounced monotonous.
- Physical materials may be inadequate or inappropriate.
- Background information may be difficult to find. There may be few primary sources and students may be reduced to copying out large sections of textbooks. The texts themselves may be uninspiring with a dearth of illustration.
- The relationship with one's fellows can sour: sometimes those

working alone wish for companions; those in a team wish they could be working on their own.

- Some groups bewail the lack of a leader; others find themselves dominated by one person.
- Too much time may diminish momentum, too little time may rush the job to unsatisfactory completion.
- The end product may be a stereotype, with the whole class producing similar results
- a disappointing response from the tutor or other students to the finished product may cast its shadow back over the project as a whole. A student may be personally dissatisfied with his work, or it may be rejected by his tutor, his peers or by external agencies. The student may 'introject' this verdict and blame himself or he may 'project' it externally and blame others and denigrate the whole educational experience.

The catalogues of negative points are to an extent the mirror image of the project that goes well, a dark side of the moon but still recognisably the same moon. That culinary chemistry which is the hallmark of the good cook needs to be embodied in the teacher as skilled and enthusiastic educational management. At the heart of this role is a genuine caring for the pupils and for the task. Without that caring, all skilled educational management is quickly perceived by the students as an empty sham.

Given below are a selection of comments chosen to illustrate the above points. Each comment is reproduced in full but the relevant phrase is italicised.

General Studies : Quite simply, at the age of 10 or 11, we were *made to sit* outside the school gate *in total silence* and count how many cars passed in front of us, with the appropriate letter of the year on the number plate. This exciting project went on for a whole week which included one hour a day's project work. *'It was such a disaster that I don't even remember the result of, or reason for, the project.*

Can't remember : *It was unsatisfactory because it was done alone - about three people seems to be the best idea to me.*

PE/Dance routines : *No ideas, no-one prepared to lead the others which was necessary since it was a group project.*

Art : *Each person had to choose an object. He had to draw that object on paper and then divide the drawing into six equal portions. He then had to take six different media and complete the drawing of the object using one medium for each box. The project was useless for two main reasons, the first being that the student had no training in the media he was supposed to use; secondly, the one surface that was being used to draw on was not receptive to each medium, therefore the student was expected to use a medium foreign to him on a surface alien to the medium, and expected to find the project beneficial!*

Biology/Agriculture. Study of agricultural methods and requirements in pasture farming.

(a) *Theoretical study of structure, principles of grass in biological terms.*

(b) *Practical application to an agricultural purpose - trays of grass sown under the same conditions - variety of different species, mixtures, hybrids, etc. Gauge effects of fertiliser, light, conditions, by monitoring growth and weight of grass crops taken from each seed box - dried and chopped and recorded on charts as hay feed. Unsatisfactory because (a) difficult weather conditions damaged experiments; (b) difficult to carry out standard methods with regard to equal drying and seeding, (c) difficult to count amount of grass sown and reaped, which led to unreliable results (d) lack of impetus - not a compulsory project. Project petered out as there was not enough adequate formal guidance.*

Art. To give your view of the way in which newspapers reflect the way people live and give your view of the different sorts of

people who read the different newspapers. To use one form of art to express your views - theatre design, illustration, fine art. *The project was too tight in that you could not choose different ways of working - I chose Graphics but I could not adjust it to anything else. I was given no help to extract my ideas. It was unfinished as I had only 4 days to complete it in. Everyone produced the same stereotyped ideas of the kinds of people who read newspapers.*

Art. Aim : *to make a simple boat from wood. I put it together with nails. It was a disaster - it sank when I immersed it in water.*

Languages. It started as an exchange trip to France. My 'penfriend' came to stay for one week then I went back and stayed with her. After this we had to write up a report of the town we stayed in - Rouen. *It was unsatisfactory because the girl and I did not have many similar interests but there was nothing we could do about it. Our knowledge of the second language wasn't really sufficient to hold a conversation so the English people ended up speaking amongst themselves. The point of the exchange - to improve our French - was therefore lost.*

Design & Technology. The first project attempted during my 'A' level design course required a self-propelled car to be designed. Drawings were produced and construction commenced. The body consisted of a glass fibre shell. The wheels were made from plastic moulded in an injection mould constructed as part of the project. This consumed more time than intended and when finished did not perform as as intended., producing partially formed wheels. Two were eventually formed. The car was driven by a a battery powered motor. *The finished car moved slowly under the power of the motor due to the excess weight of the body. The chassis for the rear wheels and motor required redesigning to economise on weight. This did little to improve the design. Lack of available development time halted the project."*

Letters. We were not given enough time and the project became too detailed. Firstly we were told to make several designs involving our initials - which was good as we were left alone and worked individually. Then we were told to draw a certain sized square and to enlarge our favourite design, to make a black-and-white tonal study, then a colour study, and then one in wood. *It was disastrous as your own imagination was not given the chance to work - you were told exactly what you had to do. Surely it would have been better to let us develop the ideas from stage one in any way we liked!*

And a tragi-comic story to end with . . .

Motor go-kart. The project was to build a wooden frame, include a steering mechanism, bolt the motor to the frame and work out some form of a drive mechanism to the rear axle. *I completed the project but it took many months and the wooden frame couldn't cope with the engine vibrations.*

Comparison of Characteristics of Best and Worst Projects.

As each year group was coded, the results were roughly sketched on to a back-to-back chart. Though roughly drawn, these were interesting enough to pursue as there was a very clear matching of significant features on both sides of the divide.. (Reproduced in Figure 19 are both the tables and the bar graphs.)

The degree of summarising was judged to be important and therefore bar graphs were prepared both for Level IV, the finely differentiated 80-category level, and for Level III, which placed items into 10 sub-categories. A1,2,3 B1,2,3, etc.

Totals were prepared for all year groups, and percentages calculated so that the frequency of mention of certain categories could be compared year to year. Then finally the three principal categories at Level II, A, B, & C were compared for all years. The relevant tables are those in Figs, 20a,b,c,d,& e.

**PAGE
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Fig 17-18

1983-84

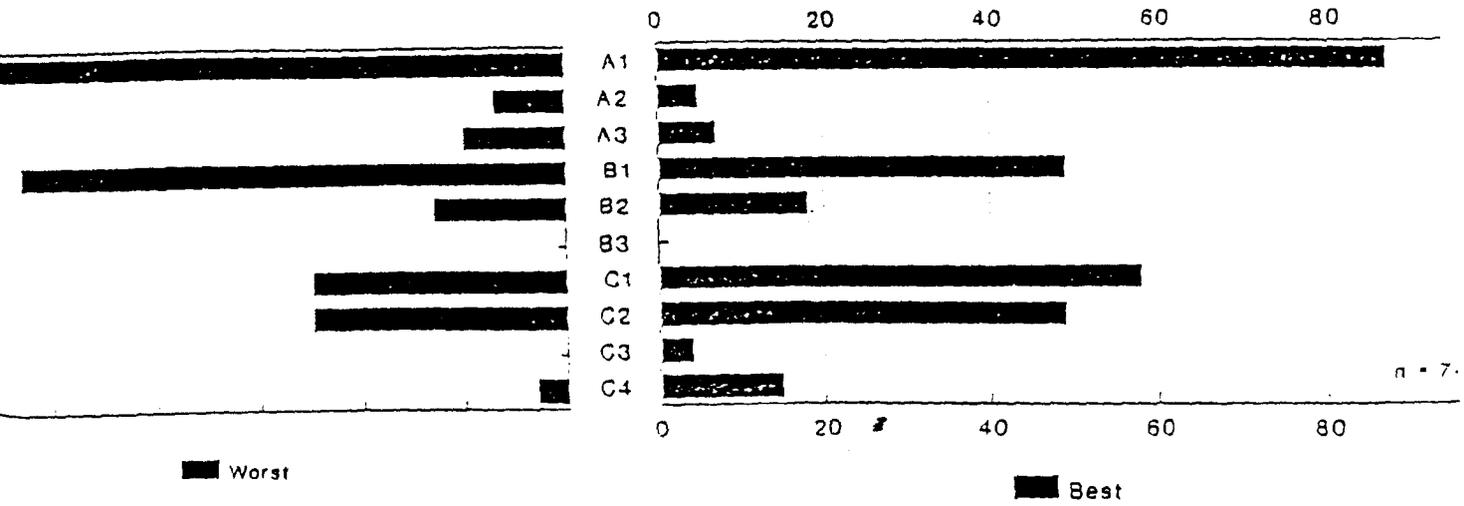


FIGURE No. 19

Inquiry I. Graphs placed back-to-back to compare characteristics of best and worst projects.

1983-84

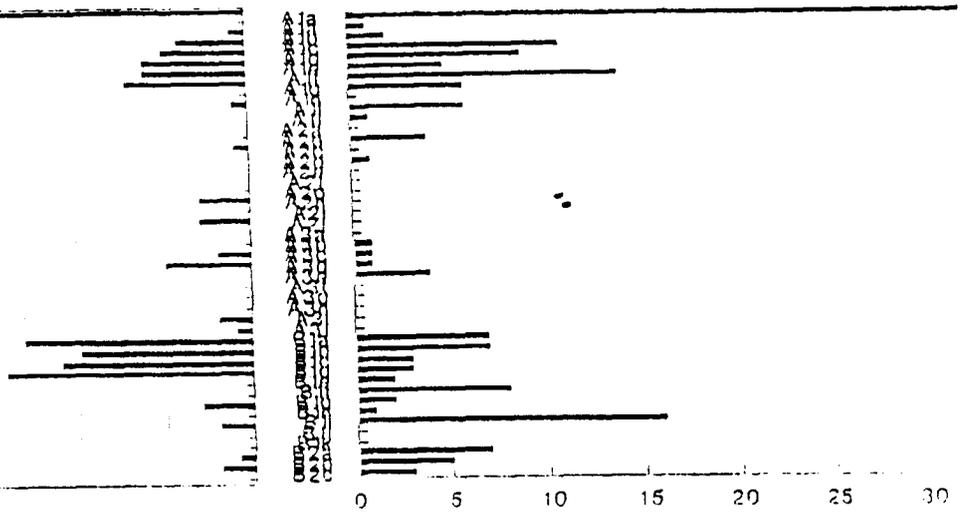


FIGURE No. 19 Inquiry I. Graphs placed back-to-back to compare characteristics of best and worst projects.

1984-85

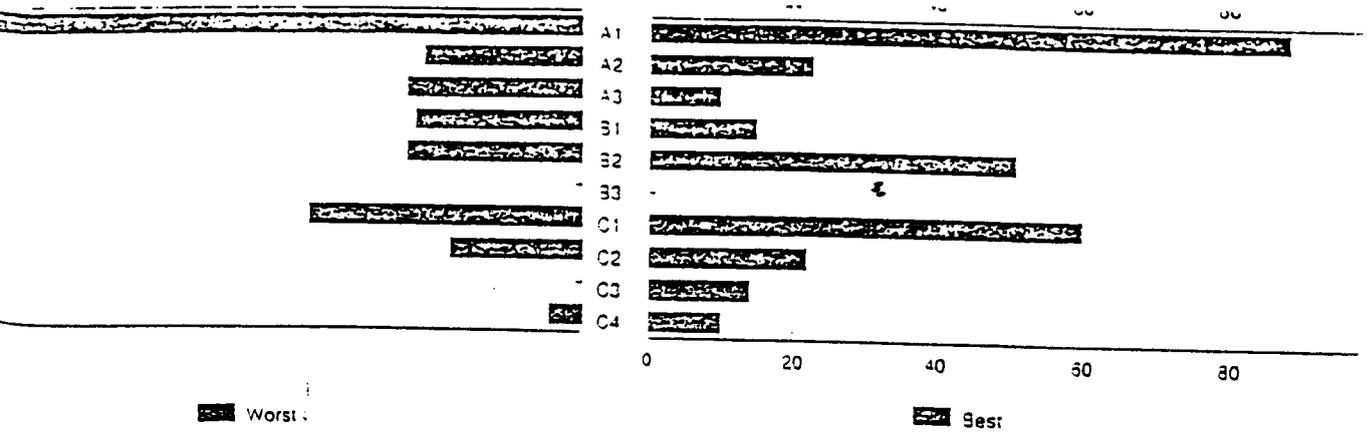


FIGURE No. 19

inquiry I. Graphs placed back-to-back to compare characteristics of best and worst projects.

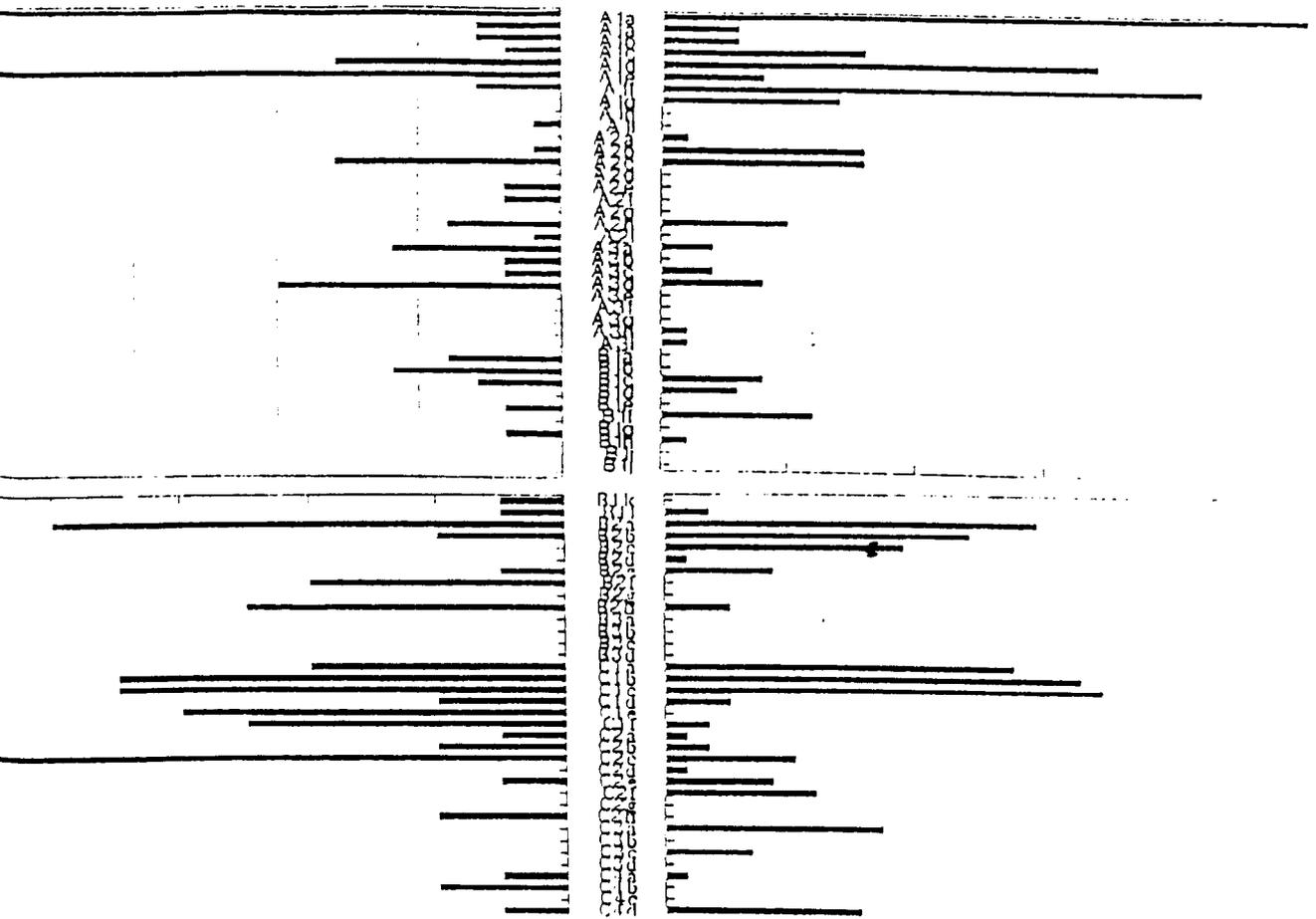


FIGURE No. 19

Inquiry I. Graphs placed back-to-back to compare characteristics of best and worst projects.

1985-86

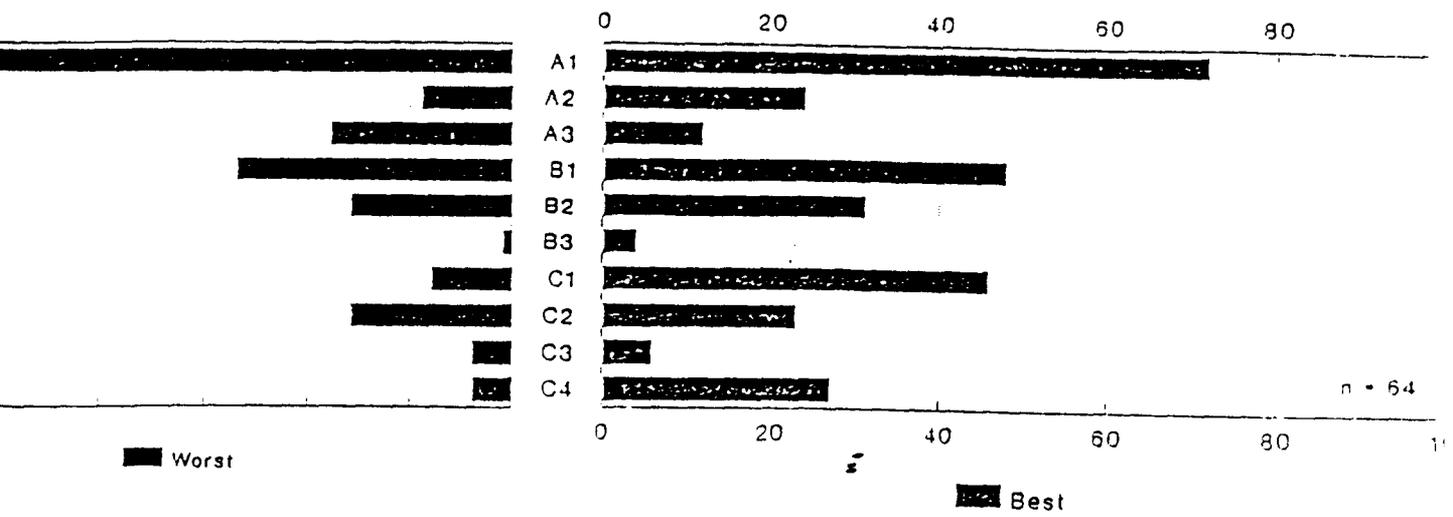


FIGURE No. 19

Inquiry I. Graphs placed back-to-back to compare characteristics of best and worst projects.

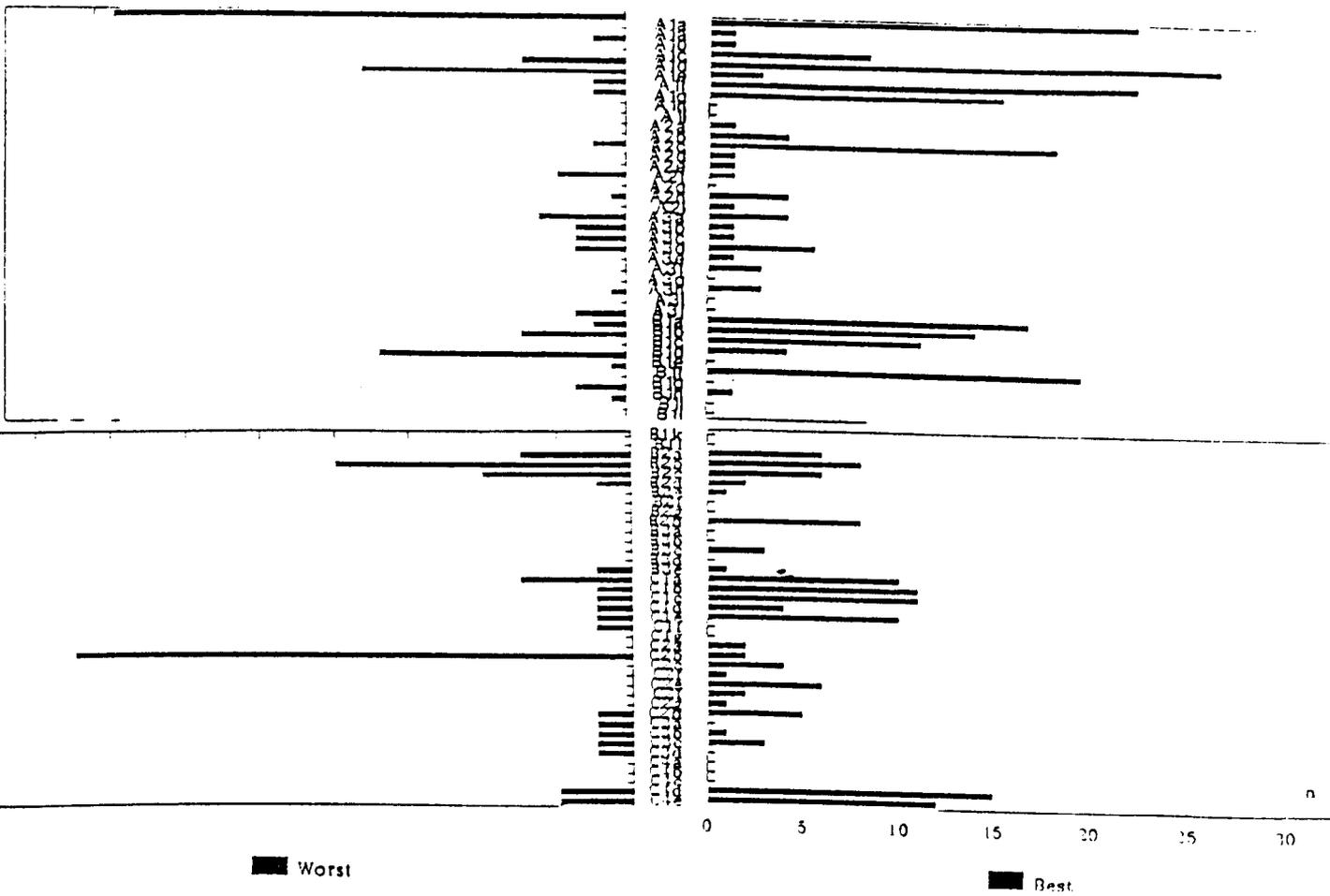


FIGURE No. 19 Inquiry I. Graphs placed back-to-back to compare characteristics of best and worst projects.

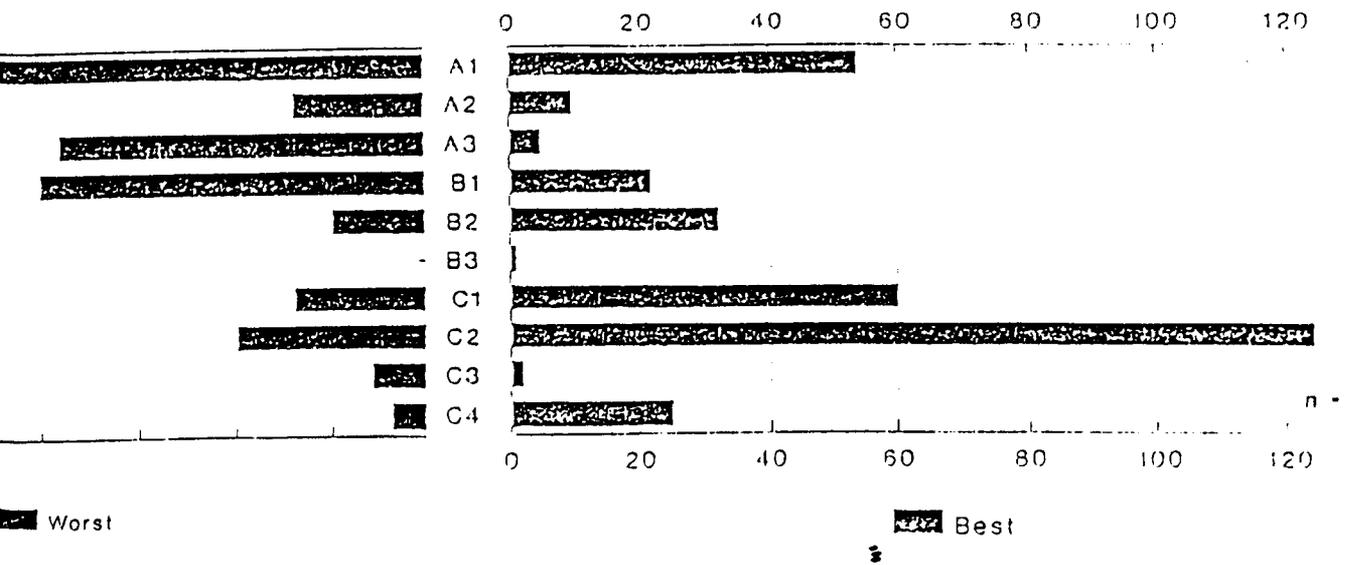


FIGURE No. 19

inquiry I. Graphs placed back-to-back to compare characteristics of best and worst projects.

1986-87

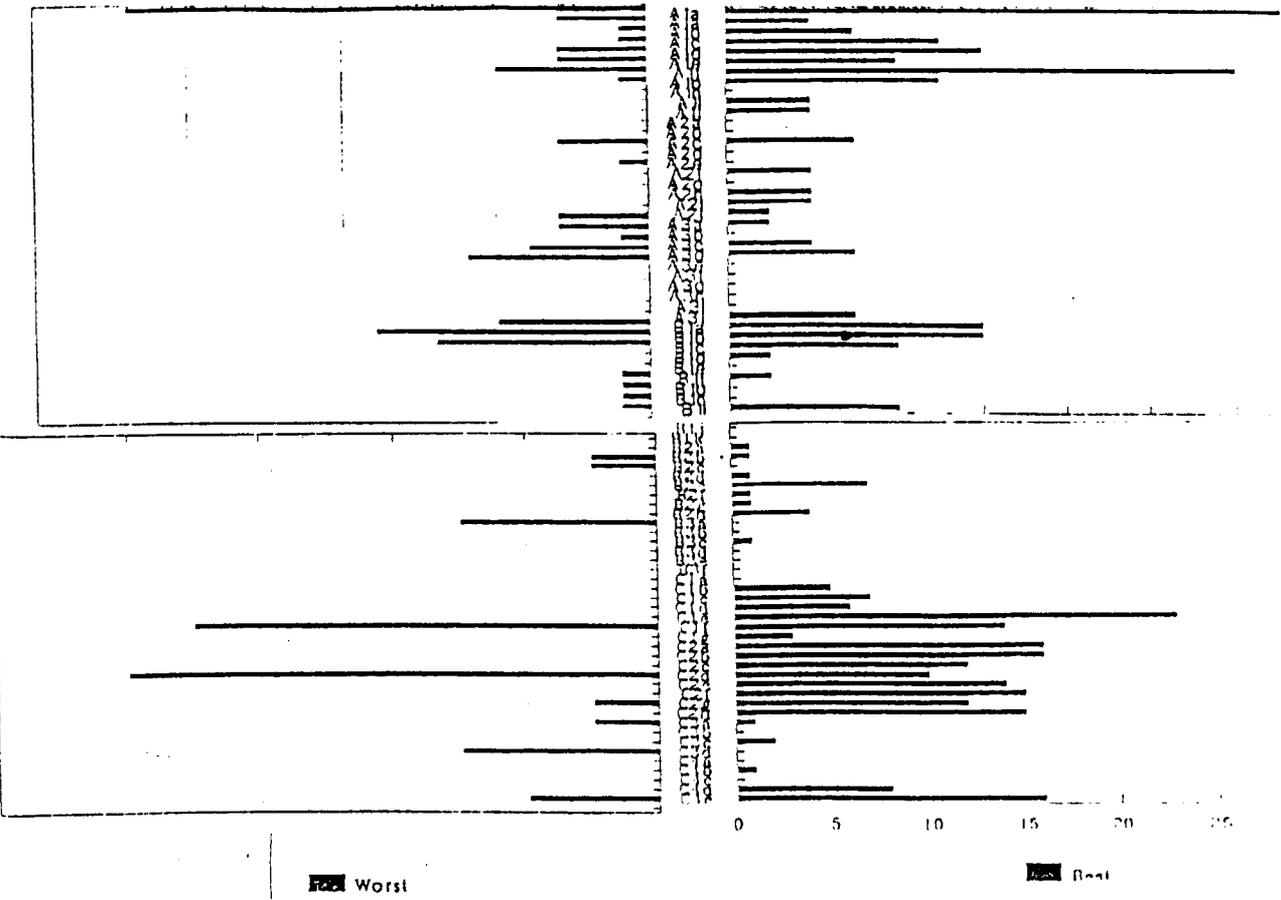


FIGURE No. 19

inquiry I. Graphs placed back-to-back to compare characteristics of best and worst projects.

ALL ITEMS ASSIGNED INTO CATEGORIES : ALL YEARS

Total number of items mentioned
by the year group

1982-3	n _i =47	361
1983-4	n _i =74	490
1984-5	n _i =60	446
1985-6	n _i =64	454
1986-7	n _i =65	446

Worst Projects

Best Projects

1982-3	38	A1	40
1983-4	62	A1	87
1984-5	68	A1	88
1985-6	56	A1	72
1986-7	34	A1	54
Total	258 (66%)	A1	341 (71%)

1982-3	13	A2	40
1983-4	7	A2	5
1984-5	18	A2	23
1985-6	9	A2	24
1986-7	7	A2	10
Total	54 (14%)	A2	102 (21%)

1982-3	13	A3	5
1983-4	10	A3	7
1984-5	20	A3	10
1985-6	18	A3	12
1986-7	19	A3	5
Total	80 (10%)	A3	39 (8%)

Total A	392	A	482	ALL As =874
---------	-----	---	-----	-------------

FIGURE No.20a Inquiry I. Characteristics of best and worst projects assigned to principal categories and sub-categories of the learning conversation.

1982-3	45	B1	23
1983-4	53	B1	49
1984-5	19	B1	15
1985-6	2	B1	48
1986-7	20	B1	22
Total	139 (66%)	B1	159 (49%)
1982-3	16	B2	30
1983-4	13	B2	18
1984-5	20	B2	51
1985-6	16	B2	31
1986-7	5	B2	32
Total	70 (33%)	B2	162 (49%)
1982-3	0	B3	1
1983-4	0	B3	0
1984-5	0	B3	0
1985-6	1	B3	4
1986-7	0	B3	1
Total	1 (0%)	B3	6 (2%)
<hr/>			
Total B	210	B	327
<hr/>			

FIGURE No.20a Inquiry I. Characteristics of best and worst projects assigned to principal categories and sub-categories of the learning conversation.

1982-3	40	C1	32
1983-4	25	C1	58
1984-5	31	C1	60
1985-6	8	C1	46
1986-7	7	C1	60
Total	111 (51%)	C1	256 (51%)

1982-3	13	C2	9
1983-4	25	C2	49
1984-5	15	C2	22
1985-6	16	C2	23
1986-7	10	C2	24
Total	79 (36%)	C2	127 (25%)

1982-3	2	C3	0
1983-4	0	C3	4
1984-5	0	C3	14
1985-6	4	C3	6
1986-7	3	C3	2
Total	9 (4%)	C3	26 (5%)

1982-3	4	C4	14
1983-4	3	C4	15
1984-5	4	C4	10
1985-6	4	C4	27
1986-7	2	C4	25
Total	17 (8%)	C4	91 (18%)

Total C	216	C	500
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Total As (Worst)	392 (48%)	Best;	482 (37%)
Total Bs	210 (26%)	"	327 (25%)
Total Cs	216 (26%)	"	500 (38%)

GRAND TOTAL ;Worst	818	Best;	1309
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ALL ITEMS: 2127

All As;	874 (41%)
All Bs;	537 (25%)
All Cs;	716 (34%)

FIGURE No.20a Inquiry I. Characteristics of best and worst projects assigned to principal categories and sub-categories of the learning conversation.

TOTAL ITEMS IN ALL CATEGORIES OVER ALL YEARS

Total	258	A1	341
Total	54	A2	102
Total	80	A3	39

Total A	392	A	482
---------	-----	---	-----

Total	139	B1	159
Total	70	B2	162
Total	1	B3	6

Total B	210	B	327
---------	-----	---	-----

Total	111	C1	256
Total	79	C2	127
Total	9	C3	26
Total	17	C4	91

Total C	216	C	500
---------	-----	---	-----

All As	392 (48%)	482 (37%)
All Bs	210 (26%)	327 (25%)
All Cs	216 (26%)	500 (38%)

GRAND TOTAL	Worst	818	ALL A,B,Cs	1309
-------------	-------	-----	------------	------

FIGURE 20b. Totals of items mentioned, all years, in principal and sub-categories of the learning conversation.

1982-3, ,n, =47			361
1982-3	38	A1	40
1982-3	13	A2	40
1982-3	13	A3	5
Total	64 (35%)	A	85 (44%)
1982-3	45	B1	23
1982-3	16	B2	30
1982-3	0	B3	1
Total	61 (33%)	B	54 (28%)
1982-3	40	C1	32
1982-3	13	C2	9
1982-3	2	C3	0
1982-3	4	C4	14
Total	59 (32%)	C	55 (28%)
Grand total	184		194

1983-4, ,n, =74			490
1983-4	62	A1	87
1983-4	7	A2	5
1983-4	10	A3	7
Total	79 (40%)	A	99 (34%)
1983-4	53	B1	49
1983-4	13	B2	18
1983-4	0	B3	0
Total	66 (33%)	B	67 (23%)
1983-4	25	C1	58
1983-4	25	C2	49
1983-4	0	C3	4
1983-4	3	C3	15
Total	53 (27%)	C	126 (43%)
Grand total	198		292

FIGURE 20c. Assigning of items to categories, by year.

1984-5, n,=60			446
1984-5	68	A1	88
1984-5	18	A2	23
1984-5	20	A3	10
Total	106 (54%)	A	121 (41%)
1984-5	19	B1	15
1984-5	20	B2	51
1984-5	0	B3	0
Total	39 (20%)	B	66 (23%)
1984-5	31	C1	60
1984-5	15	C2	22
1984-5	0	C3	14
1984-5	4	C4	10
Total	50 (26%)	C	106 (36%)
Grand total	195		293

1985-6 n,=64			454
1985-6	56	A1	72
1985-6	9	A2	24
1985-6	18	A3	12
Total	83 (52%)	A	108 (37%)
1985-6	27	B1	48
1985-6	16	B2	31
1985-6	1	B3	4
Total	44 (28%)	B	83 (28%)
1985-6	8	C1	46
1985-6	16	C2	23
1985-6	4	C3	6
1985-6	4	C4	27
Total	32 (20%)	C	102 (35%)
Grand total	159		293

FIGURE 20c. Assigning of items to categories, by year.

1986-7	n,=65			446
1986-7	34	A1		54
1986-7	7	A2		10
1986-7	19	A3		5
Total	60 (56%)	A		69 (29%)
1986-7	20	B1		22
1986-7	5	B2		32
1986-7	0	B3		1
Total	25 (23%)	B		55 (23%)
1986-7	7	C1		60
1986-7	10	C2		24
1986-7	3	C3		2
1986-7	2	C4		25
Total	22 (21%)	C		111 (47%)
Grand total	107			235

FIGURE 20c. Assigning of items to categories, by year.

1982-3 Total	64 (35%)	A	85 (44%)
1983-4, Total	79 (40%)	A	99 (34%)
1984-5, Total	106 (54%)	A	121 (41%)
1985-6, Total	83 (52%)	A	108 (37%)
1986-7, Total	60 (56%)	A	69 (29%)
1982-3, Total	61 (33%)	B	54 (28%)
1983-4, Total	66 (33%)	B	67 (23%)
1984-5 Total	39 (20%)	B	66 (23%)
1985-6, Total	44 (28%)	B	83 (28%)
1986-7, Total	25 (23%)	B	55 (23%)
1982-3, Total	59 (32%)	C	55 (28%)
1983-4, Total	53 (27%)	C	126 (43%)
1984-5, Total	50 (26%)	C	106 (36%)
1985-6, Total	32 (20%)	C	102 (35%)
1986-7, Total	22 (21%)	C	111 (47%)

Categories ranked according to the percentages they hold.

Worst Projects

Best Projects

	Ist	2nd	1st	2nd
1982-3	A	B	A	C
1983-4	A	B	C	A
1984-5	A	C	A	C
1985-6	A	B	A	C
1986-7	A	B	C	A

FIGURE 20d. Comparative totals and percentages of Categories A, B & C all years..

These tables are placed in the text at this point but they will be discussed in detail later, after a description of Inquiry II and Inquiry III. The main purpose of the tables were that they should enable comparisons to be made, so analysis must wait until all the meetings with foundation have been described.

Question 5. : Conceptual Models of the Project.

Finally students were asked to read descriptions of three types of project, A, B & C. They were asked which one (or which types in combination) would be most appropriate for art education, and if none, to describe a suitable model. This question was useful in making students aware that different conceptual models were possible, but that the replies varied from year to year. This may have been a reflection of different styles of presentation adopted by the researcher.

One possible explanation of the difference in the responses for each of the years shown (Fig. 22.) especially the reaction to Model C (which is model giving the student greatest autonomy.) is difference in emphasis the researcher. A colleague present in 1982-3, the first of the five years, said that sometimes when presenting the three models, I seemed unwittingly, to favour Model C. This may have

influenced certain year groups, and later, when I strove to avoid such bias, have given less emphasis to C than I should have done.

Though this question may have been useful in making clear that there were different generic types of project design, the results are too different from year to year to permit firm conclusions to be drawn.

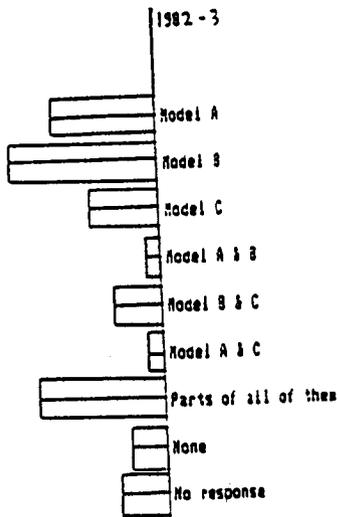
RANK ORDER OF CATEGORIES A, B & C.

	Worst Projects		Best Projects	
	Ist	2nd	1st	2nd
1982-3	A	B	A	C
1983-4	A	B	C	A
1984-5	A	C	A	C
1985-6	A	B	A	C
1986-7	A	B	C	A

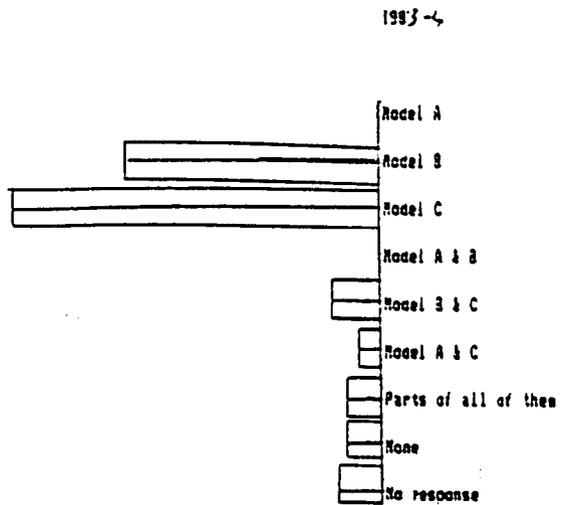
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Fig 21

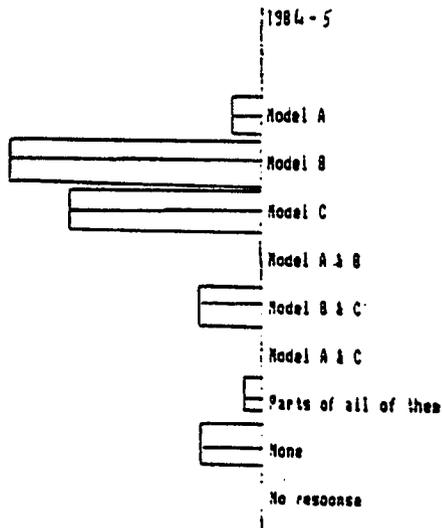
CONCEPTUAL MODEL OF A PROJECT



CONCEPTUAL MODEL OF A PROJECT



CONCEPTUAL MODEL OF A PROJECT



Tables showing different conceptual models of projects held by Foundation students

FIGURE No.22

Inquiry I. Conceptual models of a project held by students

CHAPTER 6

INQUIRY II

As Inquiry II was considered the central occasion for the research with Foundation, the procedure is described in detail. A warm-up session took place first, followed by the hybrid pyramid/repertory grid exercise. . The principal innovation was the use of colour coded squares of papers to enable the individuals to record in their own words what they were thinking and a series of ladders to chart the changes in opinion as they engaged in small group and full group discussion.

The second session with Foundation took place approximately half-way through the academic year, sometime between February and May. By this time the students had been working together closely for at least four months or more. They had worked continuously through a series of projects, starting in the first term with three-day projects, moving on to longer three-week projects as they began to specialise in one of the Design areas Fine Art, Graphics, Fashion or Three Dimensional Design (interior, furniture or product design.)

A large room was booked which would comfortably accommodate 60 - 80. The chairs were moveable to enable the formation of small groups. Tables or arm-rest desk areas were available to use for laying out paperwork. Two hours were set aside for the meeting.

Activity 1.

The first activity was a brief oral exercise designed to get the students to think about all the ways in which they had learned over their past lives. (This exercise did not focus on project work.) It was deliberately planned to bring into focus the non-institutional forms of learning that take place among peers, on the sportsfield, in clubs and societies, and at home.

The spoken instructions for this exercise were as follows: .

1. "Think of all the things you have taught yourself, learnt by your own efforts, without a teacher."
"Choose the one that you know best."
"By what criteria did you decide that it was the one you knew best?"
"How did you learn it?"

2. "Think of all the things you have been taught by others, in a school or college"
"Choose the one that you know best".
"How did you decide that you knew it better than all the others?"
"How did you learn it?"

Then quickly round the groups the answers were called out in turn and listed on the board. Students were asked to see if a pattern emerged from the clusters of answers.

The following points are the themes that usually emerged:

Subjects self-taught: hobbies, skills, crafts, art, music, sports, the 'taxi knowledge', Tai Chi, moving house abroad, rearing children, picking up a new language, handling personal relationships.

Defined as 'best' because

: could teach it to others, felt confident, at

ease , committed.
Learnt it by: teaching others, imitating others, copying from examples, reading everything on the subject, talking to experts, trying it out , practising, repeating, spending hours on it, becoming obsessive.

Subjects Taught by others: academic subjects, abstract subjects, technical subjects, music, sports. languages.

Defined as 'best' because:

Came top of the form, won prize, gained award, won competition, got best marks, earned high grade.

Learnt it by:

studying hard, spurred by ambition, felt competitive, memorised and learned by rote, taught others, enthusiastic teacher, self-help groups.

The result of this quick exercise was to bring a wide variety of types of learning into focus and to value non-institutional learning as an important area of learning. One interesting feature that usually emerged was that institutional learning may allow the teacher to decide if you are good, with independent learning, this decision rests with you.

Activity II

This next procedure developed for Inquiry II contained the core methodology for the research project and became the chief influence on the design of the procedure for the student meeting used to evaluate courses across the Polytechnic.

The question was expressed in the following words:

2. "How does the project method help you to learn?"

Considerable thought went into the framing of this simple query. It was true that it begged the question by assuming that the project method would help rather than hinder learning. But the point of the research was not to establish whether or not the project method helped one to learn, but in what precise ways it might do so. The opposite view was canvassed later in the year in Inquiry III with the question: "Are there any aspects of the project method that do not help you to learn?"

● ● Each student was given an envelope on which to write his or her name. Inside the envelope were 10 squares of paper, in 3 different colours, labelled with the first ten letters of the alphabet. For example, squares A - E were pink, F - G were green and H - J , yellow. In addition there was a sheet of paper showing 3 printed ladders, one of five rungs, one of seven, and one of ten.

● The five pink squares of paper, A - E, were used by individual students, working alone, to record five ways in which the project method helped him to learn.

- These five items were then ranked in order of importance and entered up by their code letters, A - E, on the first 5-rung ladder.

- ● The students then formed small groups to share their five elements and share among themselves what they had written. If they wished, they could use the next two squares, green F - G, to record any two items they wished to 'borrow' from their fellows in the group

- The seven elements were re-ranked on the second ladder using the squares labelled A - G.

- ● The discussion was then conducted in plenary session. Elements were collected from each of the groups in turn and written on the overhead projector.

- The three remaining squares labelled H - J could then be used to borrow items from the plenary discussion. All the squares were then re-ranked for the final ladder.

- At the end of the session, all squares of paper were folded into the ladder sheet and placed in the named envelope.

- When responses were being clustered each envelope was given a number which was copied on to all the squares and the ladder. (This

enabled the squares to be sorted into clusters, yet easily returned to the original named envelope.

The snowball or pyramid procedure has been widely used in education and in training over the last ten years. The experience of using it with Foundation showed that it was a way of handling large groups and yet allowing for the active involvement and participation of the individual. Particularly noticeable was that concentration was sustained over a long period, that the task was taken seriously, and that the three-stage discussion was not merely repetitive but involved refinement and clarification of the original elements. Perhaps most important was the sense of enjoyment that the process engendered. Many students spontaneously thanked the researcher for the opportunity to take part in the exercise.

□ The particular strength of the pyramid is that it captures in writing the original ideas of each individual, then allows for expansion to include the views of peers, and finally if desired, the incorporation of the views drawn from the whole group. At each stage the preferences of the individual and the ordering of priority is preserved so that it is possible to trace the extent to which the original individual view triumphs over - or bows to - the views of the group. Thus the pyramid is not solely a consensus-seeking technique though it may tend towards consensus. In comparison the Delphi technique and the Nominal Group Technique subordinate the individual view to the goal of achieving the consensus view and contrary opinion is gradually eliminated. (Lomax, 1984)

Presentation of Individual Elements.

The following pages contain examples of the elements identified by students and the way the ladders recorded the changes through the three stages of the exercise. (Figs 23a,b,c,d,e,f,g,). Fig.5 shows the total number of students taking part in Inquiry II, all years.)

The elements were typed exactly as they were originally expressed and then coded according to the three principal categories of the learning conversation, A, B & C. It was necessary to find a way of displaying, making visible, the movement of individual ideas through the three stages of ranking.

The squares of paper were removed from their envelopes, arranged in the order of the third and final ladder or ranking, and entered on the individual sheets in that final order. On the sheet were logged the other two earlier rankings. Lines showing the movement of each element across three ladders were drawn, and each line drawn in one of three colours according to whether it was category A, B or C.. In addition the number of movements 'downward' or 'upwards-and-downwards' was recorded at the foot of the sheet to enable the degree of stability or change of each original idea to be recorded. See Fig 23 for sample records.)

From the stability/change records were drawn tables for the whole year group. These are shown in Fig 24, and the total for all years in Fig. 25. The full set of record sheets for individual students, for each year is in Appendix F2. The Stability/Change figures for all years reveal that an individual's first idea is most resistant to change, followed in ordinal descent by his second, third, and so on. As the numbers for some year groups in Inquiry II are quite small, the numbers have been put together to represent the total number of movements of opinion demonstrated by students over all the years of the research project. (Figure 25).

The use of colour in the individual tables allowed easy appreciation of the relative balance between the three elements for any one individual; the lines between the ladders graphically represented the downward movement of an original idea as it gave way to an idea borrowed from elsewhere (See Moon, Woodward, Fig 23). Equally the strong horizontal lines show where an original idea is stable (See Console, Gale, Figure 23), and the crisscrossed lines reveal the change of ideas through the various rankings (See Waters, West, Gurr, Figure 23).

Name. Nikki Console

No. 25

Year. 86-87

Individual Small group Plenary Element Category

- .A .A . Limited time to complete a project - discipline
- .B .B . Competition - the need to do better than others
- .C .C . Creative atmosphere initiates ideas. Inspiration. Sharing atmosphere
- .D .D . Criticisms teach you to appreciate and act upon personal criticism
- .E .E . Teaches you to explain your own ideas and sell them to others
- (G) .F . Time to go through one process at a time
- (F) .G . One to one relationship
- (H) . Taught to use research
- (I) . Social life
- (J) . Good facilities

NS for Comment

Stability: Change

A	0
B	0
C	0
D	0
E	0

Stable Elements

FIGURE No. 23a Inquiry II. Sample individual tables recording relative stability/change of items over 3 successive rankings.

Individual Records
Degree of Stability vs Change

Name Colin Gale

No. 21

Year 82-83

Individual	Small group	Plenary	Element	Category
A	A	A	Own experimentation	
B	B	B	Practice	
E	E	E	Learning from mistakes	
D	F	F	Criticism	
C	D	D	Talking over work with others	
	C	C	Looking at others work	
	G	J	The group getting motivation from others	
		G	Being left alone - to sort out your own problem	
		I	Physical environment	
		H	Project structure, brief	

Items for Comment

Stability : Change

1.	A	0
2.	B	0
3.	E	0
4.	D	1
5.	C	1

Stable Elements

FIGURE No.23b Inquiry II. Sample individual tables recording relative stability/change of items over 3 successive rankings.

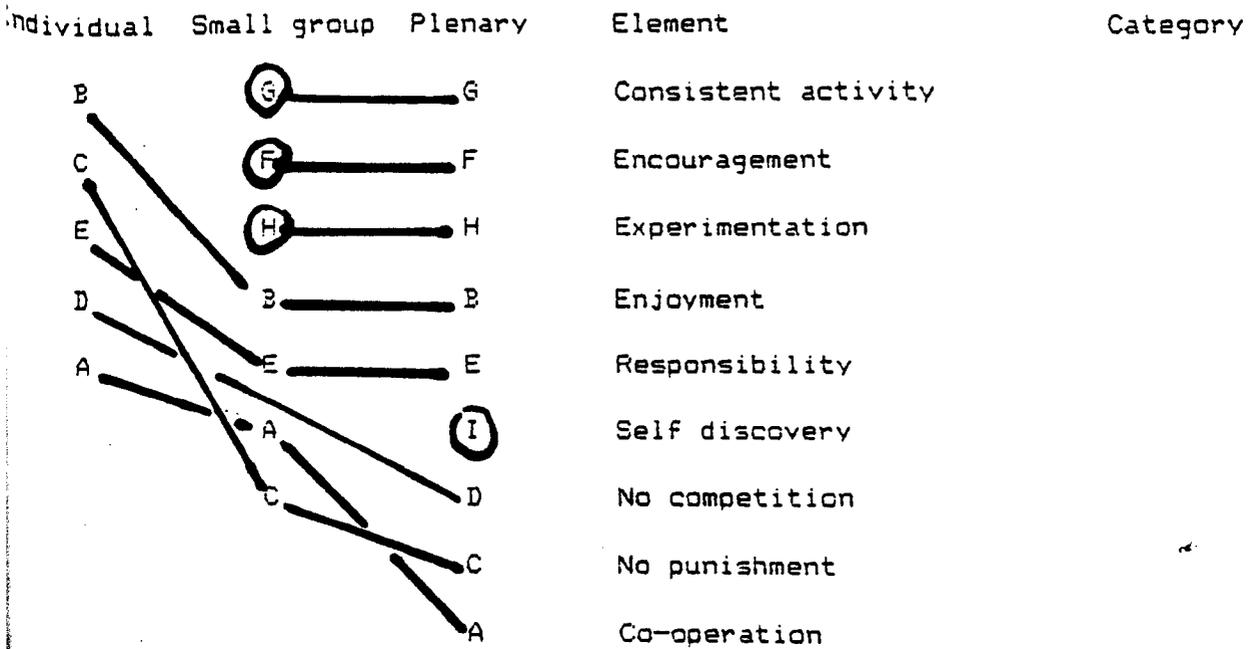
SESSION 2

Individual Records
Degree of Stability vs Change

Name Robert Moon

No. 2

Year 83-84



Items for Comment

Stability	Change
B	3
C	5
E	2
D	3
A	4

Example of less stable elements

FIGURE No. 23c Inquiry II. Sample individual tables recording relative stability/change of items over 3 successive rankings.

Individual Records
Degree of Stability vs Change

Name Lucy Woodward

No. 30

Year 83-84

Individual Small group Plenary

Element

Category

B ————— B ————— B

Off other people - peers

C ————— (G) ————— G/C

Instinct/By competition-personal motivation

A ————— C ————— A

Experimentation-by mistakes

D ————— A ————— D

From advice given by people whose opinion you respect

E ————— D ————— (J)

Family

E ————— E ————— F

Pressure

(F) ————— (H)

Compulsory aspect of first part of course - makes you learn things you might never have thought of - you learn things that have bearing on everything else you do

(E) ————— E

Being taught methods and techniques

(L)

Facilities available-resources

Items for Comment

Stability : Change

Example of less stable elements

B 0

C/A. 121

A 121

D 121

F 3

FIGURE No. 23d Inquiry II. Sample individual tables recording relative stability/change of items over 3 successive rankings.

SESSION 2

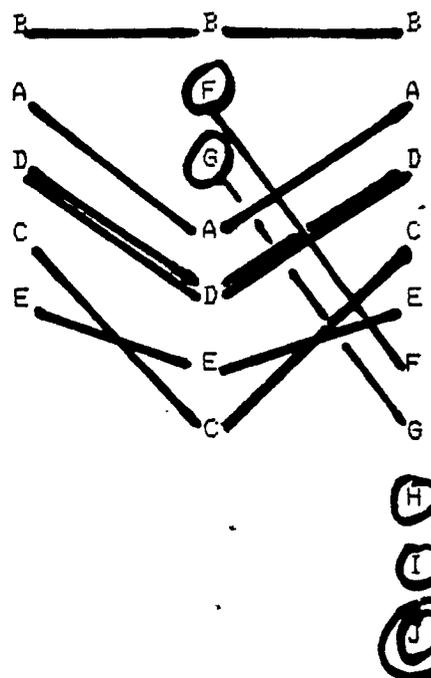
Individual Records
Degree of Stability vs Change

Name Rupert Waters

No. 40

Year 83-84

Individual Small group Plenary



Element	Category
Enjoyment	
Conversation	
Achieve goals	
Competition	
Involvement	
Ambition	
Opportunity to do things	
Experimentation	
Examination	
The opinion of others	

Items for Comment

Stability	Change
B	0
A	141
D	141
C	161
E	121

FIGURE No.23e Inquiry II. Sample individual tables recording relative stability/change of items over 3 successive rankings.

SESSION 2

Individual Records
Degree of Stability vs Change

Name Nicky West

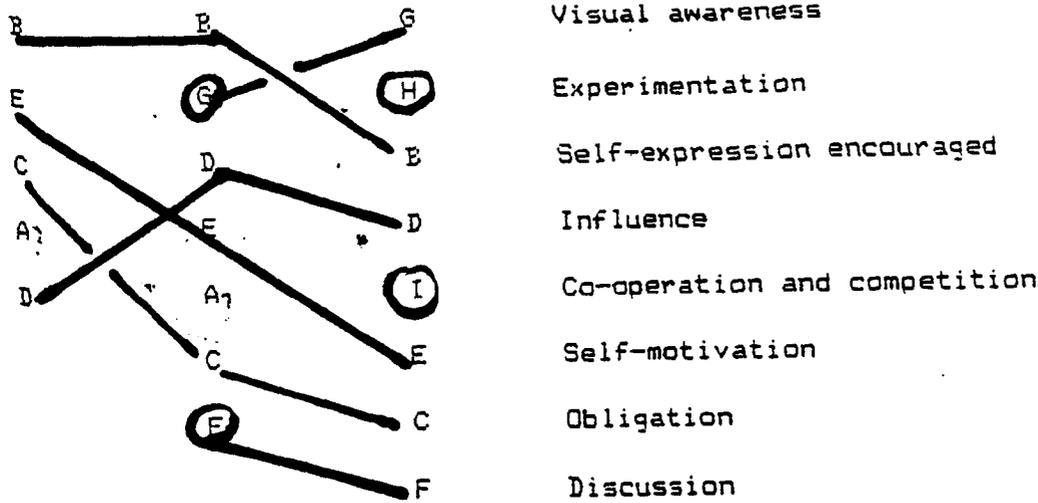
No. 8

Year 83-84

Individual Small group Plenary

Element

Category



Items for Comment

Stability : Change

B	2
E	4
C	4
A	N/A (Missing)
D	131

FIGURE No.23f Inquiry II. Sample individual tables recording relative stability/change of items over 3 successive rankings.

SESSION 2

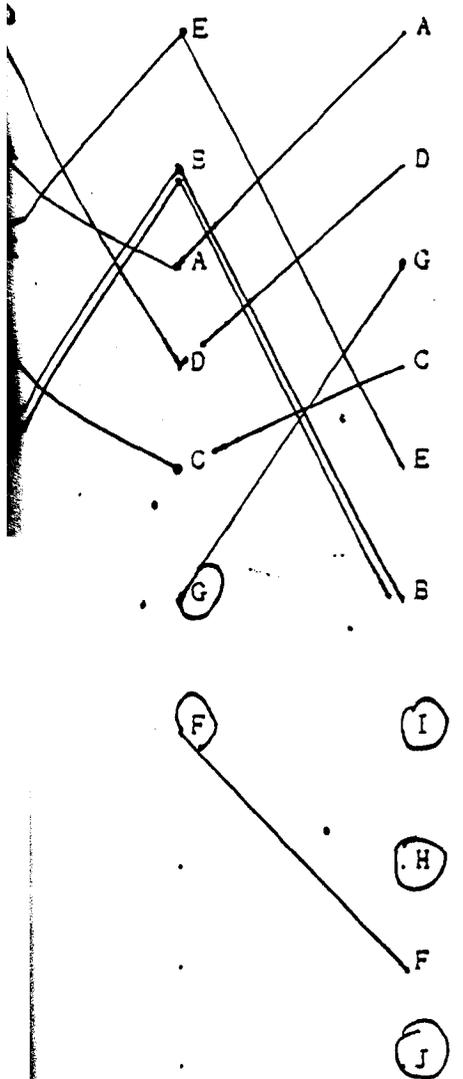
Individual Records
Degree of Stability vs Change

Name. Linda Gurr

No. 27

Year. 86-87

Individual Small group Plenary Element Category



- . Allowed to use any media you like. Far more interest in your work and more equipment available
- . Important to see the ways other people develop the same idea
- . Relaxed atmosphere
- . Taught to develop an idea
- . Given very tight brief but allowed total freedom of your ideas on how to develop it
- . Crits where you are allowed to give your view and talk about your work - not just a teacher's view
- . Teachers treat you as a friend, not just pupil/teacher
- . Very competitive atmosphere
- . Good library for research
- . Regular breaks where you can discuss ideas

Items for Comment

Stability:Change

D	1
A	131
E	161
C	121
B	171

FIGURE No.23g Inquiry II. Sample individual tables recording relative stability/change of items over 3 successive rankings.

Stability/Change: First Five Elements. 1982-83

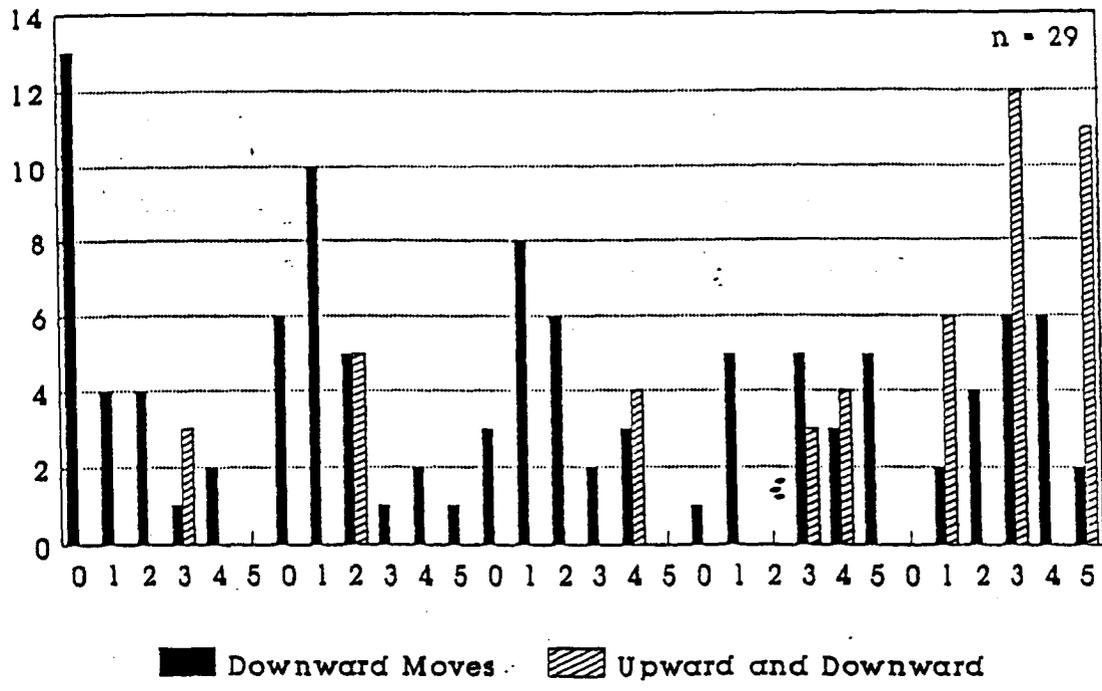


FIGURE No. 24a,
b, c, d, e.

Inquiry II. Degree of stability/change of items over 3 successive rankings: tables for each year group.

Stability/Change: First Five Elements. 1983-84

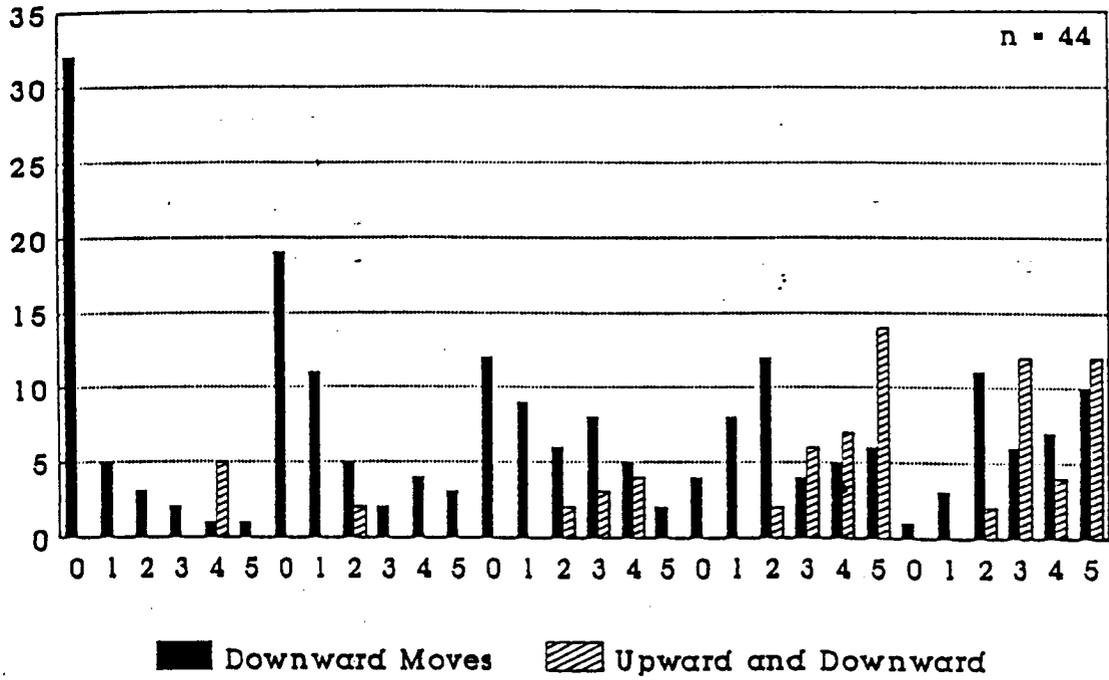


FIGURE No.24a,
b, c, d, e.

Inquiry II. Degree of stability/change of items over 3 successive rankings: tables for each year group.

Stability/Change: First Five Elements. 1984-85

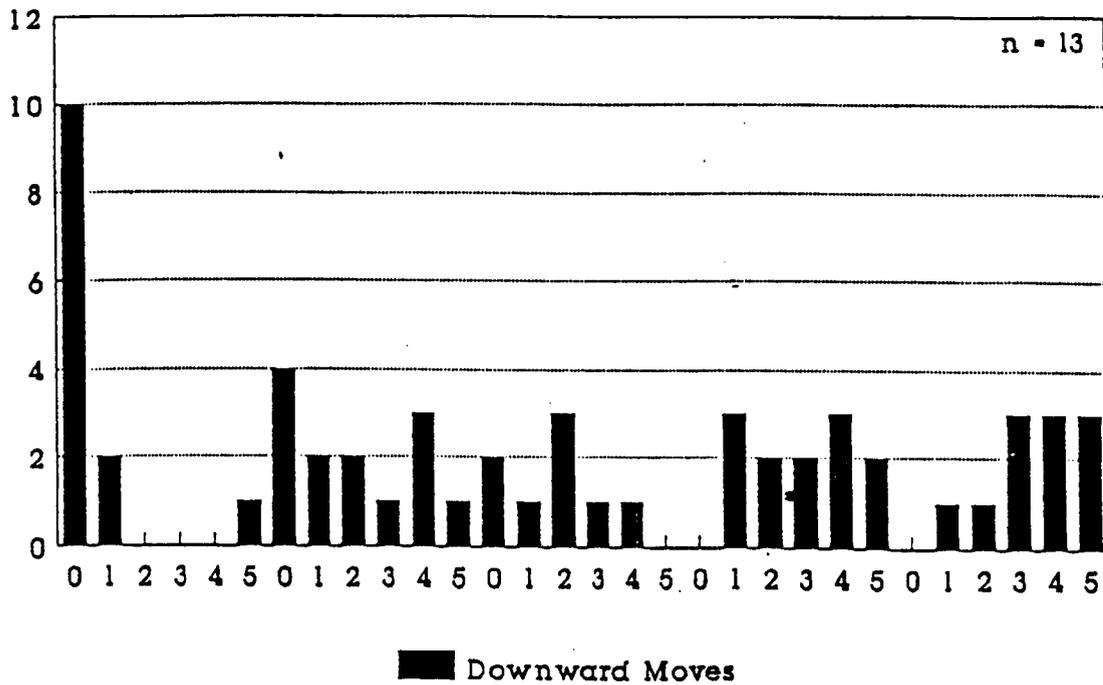


FIGURE No.24a,
b,c,d,e.

Inquiry II. Degree of stability/change of items over 3 successive rankings: tables for each year group.

Stability/Change: First Five Elements. 1985-86

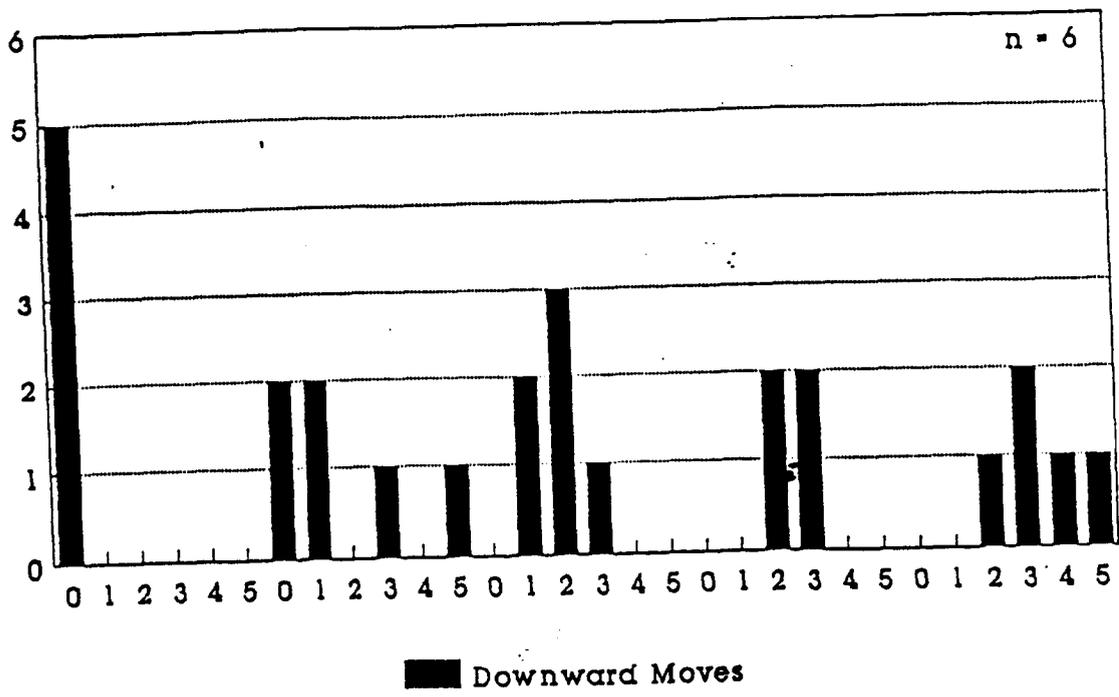


FIGURE No. 24a,
b, c, d, e.

Inquiry II. Degree of stability/change of items over 3 successive rankings: tables for each year group.

Stability/Change: First Five Elements. 1986-87

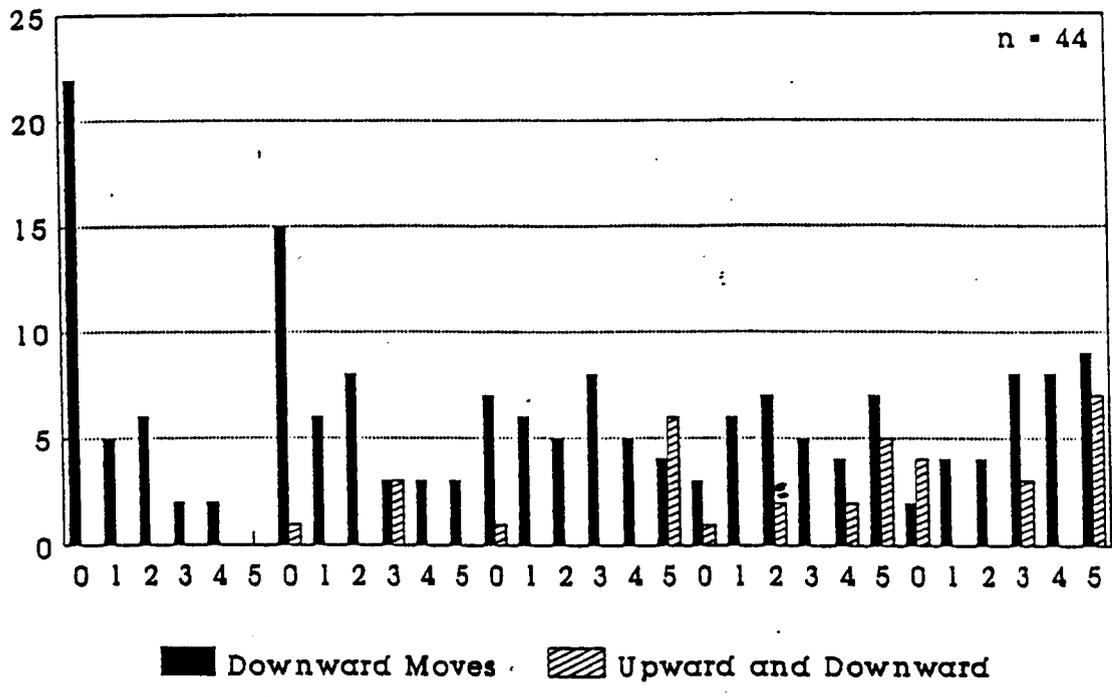


FIGURE No.24a,
b, c, d, e.

Inquiry II. Degree of stability/change of items over 3 successive rankings: tables for each year group.

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Fig 25.

TABLE OF ELEMENTS FROM INQUIRY II

BROAD (Undifferentiated)					NARROW (Differentiated)						
82-4	83-4	84-5	85-6	86-7	82-4	83-4	84-5	85-6	86-7	All Years	
Number of scripts					Number of scripts						
29	44	12	6	44	29	44	12	6	44		
	1			2	A1	59	121	60	4	78	322
1	1		1		A2	116	157	44	17	101	434
	3		1	1	A3	79	89	35	16	65	284

1	5		2	3	A	254	367	139	37	244	1041

					B1	97	75	46	16	59	293
	5			15	B2	70	59	51	14	62	256
					B3	1	20	9	3	16	49

	5			15	B	168	154	106	33	137	598

	18	4	1	1	C1	29	12	15	1	27	84
4	20		1	11	C2	57	12	15	6	16	106
	31			17	C3	10	5	5	3	10	33
	24		1	4	C4	50	3	7	7	10	77

4	93	4	3	24	C	146	32	42	17	63	300

FIGURE No.26

Inquiry II. Elements distributed according to whether they were broad or narrow.

TABLE OF ELEMENTS FROM INQUIRY II

BROAD (Undifferentiated)					NARROW (Differentiated)							
82-4	83-4	84-5	85-6	86-7		82-4	83-4	84-5	85-6	86-7	All Years	
Number of scripts						Number of scripts						
29	44	12	6	44		29	44	12	6	44		
	1			2	A1	59 (23)	121 (33)	60 (43)	4 (11)	78 (32)	322 (31)	
1	1		1		A2	116 (46)	157 (43)	44 (22)	17 (46)	101 (41)	434 (42)	
	3		1	1	A3	79 (31)	89 (24)	35 (25)	16 (43)	65 (27)	284 (27)	
1	5		2	3	A	254 (45)	367 (66)	139 (48)	37 (42)	244 (55)	1041 (50)	
					B1	97 (58)	75 (49)	46 (43)	16 (49)	59 (43)	293 (49)	
	5			15	B2	70 (41)	59 (38)	51 (48)	14 (42)	62 (45)	256 (43)	
					B3	1 (1)	20 (13)	9 (9)	3 (9)	16 (12)	49 (8)	
	5			15	B	168 (29)	154 (28)	106 (37)	33 (38)	137 (31)	598 (31)	
		18	4	1	1	C1	29 (20)	12 (38)	15 (36)	1 (6)	27 (43)	84 (18)
4	20		1	11	C2	57 (39)	12 (38)	15 (36)	6 (35)	16 (25)	106 (35)	
	31			17	C3	10 (7)	5 (15)	5 (12)	3 (18)	10 (16)	33 (11)	
	24		1	4	C4	50 (34)	3 (9)	7 (16)	7 (41)	10 (16)	77 (126)	
4	93	4	3	24	C	146 (26)	32 (6)	42 (15)	17 (20)	63 (14)	300 (15)	

FIGURE No. 26b

Inquiry II. Elements distributed according to whether they were broad or narrow. Percentages added.

CHAPTER 7 : INQUIRY III

This brief chapter describes an attempt made to contact Foundation students for a third occasion in order to see whether or not their views had changed by the end of a Foundation Studies year spent working entirely by the project method.

The third opportunity for Foundation students to comment on the project method took place after the end of their academic year. The students had mounted their show. Each student had their own display space and in it they exhibited the items they wished to have considered towards their final assessment. Judging took place immediately after the show was put up. The show remained in place for five days during which time it was open to the public, visited by staff and students from other courses in the Faculty of Design, from the art classes of neighbouring schools, and by parents and friends of the Foundation students. Groups of three or four students took in in turns according to a rota to man the show and make sure that nothing was touched or removed.

This period of limbo when there were no other duties seemed a good time to circulate the final questionnaire. Therefore a letter was placed in each display booth enclosing the Course Design/Peripheral Factors Questionnaire. (The items are reproduced in Fig. 27)

- In this final questionnaire, students were given a sheet of ten composite elements, compiled from the many phrases used by students during Inquiry II of the first year, 1982-83.. The students' own

words were used in the hope that subsequent year groups would more readily identify with the contents.

The ten items were grouped under two broad headings, Course Design and Peripheral Factors. Six were thought to lie within the area of Course Design because they were under the conscious control of the tutor. Four items were thought to involve peripheral factors which tutors were unlikely to think lay within their control. (In this first attempt to find over-arching categories, it is significant that I was thinking of the project from a tutor's point of view. It is natural to look out from the centre of one's own universe but in doing so one may not kindle a spark in others.)

- The Course Design/Peripheral Factors sheet was used for all the five years of Inquiry III. In order to see whether there was any correspondence between the elements emerging from Inquiry II and those given in the Course Design/Peripheral Factors sheet, a conversion table was designed. In this, the composite elements on the sheet Course Design/Peripheral Factors were mapped on to the Learning Conversation A, B & C sheet. (This is shown in Figure 29.) However in general it was felt that the spirit of the responses in Inquiry III was jaded and therefore too much emphasis could not be placed on any ranking that items were given. Though the scripts from 82-3 were processed as described, (see Figure 28) the same treatment was not given to other years.

- However an unsuspected side issue emerged from the use of the Course Design/Peripheral Factors sheet as the basis for Questionnaire III. On each of the occasions of its use, students strongly objected to ranking the elements given on it. The possible explanation for this objection was that they did not regard the 'supplied' elements as their own (even though they had been derived from a cohort of Foundation students like themselves in 1982-83) and therefore found ranking them an unrealistic task. It may also have been that ranking is a difficult task if one cannot physically move squares of paper about on a desk before placing items on a ladder. The most common objections were that all the elements were equally important and that it was therefore impossible to put them in rank order. It may well be that this comment summed up their feeling about a year of working in the project mode: how could the contribution of one factor be singled out above another? .

CHAPTER 8 : FINDINGS FROM INQUIRY I, II & III

This chapter gives the rationale behind some of the data gathering and looks at the implications of some of the tables and graphs.

A vast amount of detailed, vivid, rich, personal and original comment was collected from the students over five years. With regard to the written text that this generated, several decisions were made.

1. How to report material expressed in words.

- that the original words of the student, reproduced in full, were the only true correlative of what that student said.. Every attempt at summarising or paraphrasing seemed to reduce the value and power of the original. Indeed by the conversion to typescript something of the vigour and dash of the original was lost. (see Fig 23 i) Any person - student, teacher, researcher - with a purpose or need that might be met by the material ought to read it for themselves, without any artificial filter being interposed.

- that if the material had to be reduced in any way, a version must be retained that was couched in words. Number could not convey the

essential quality of communication that had itself been expressed in words.

2. How to reconcile the views of the individual with those of the group.

- that means should be found to reconcile, and give equal importance to , a horizontal representation of the data (i.e., the responses of the whole group) with a vertical one (i.e. a longitudinal study of individual responses). The way in which the group interacts with and feed on the individuals needed to be explored.
- One view of the roles of individual and the group is that the group permits an enlargement of the individual view to encompass a fuller version of what he believes but may not articulate on a given occasion.
- The total range of perceptions held by a group was of more value to staff than the sum of narrow views collected from individuals by questionnaire. The questionnaire in Inquiry I was a legitimate way of tapping the very separate and different past experiences of those in the room. But the group discussion in Inquiry II was a more appropriate way of tapping the experience in the present common to the whole group.

How should categories be chosen, and by whom? Are they fixed or do they change over time?

- that any attempt at categorisation would very strongly reflect the current preoccupations of the researcher and would therefore change over time to encompass new interests.

For example, it now seems surprising that no category emerged entitled 'ownership'. As I re-read the comments now, many indicate ownership as an important issue, but this was not picked up during the original categorisation.

These fluctuations were not deplored but welcomed as a sign of growing understanding, and of reflexivity.

- Ideally, the data should be read many times, by many different interested parties, including the students who originally made the comments. With multiple readings/interpretations/categorisations, more useful and interesting insights are likely to emerge.
- The greater the special interest in the subject/course/topic, the more appropriate it is for that person/those persons to categorise. Neutrality, detachment, distance render a person unfit to sort and classify materials. Such people have a role in checking that the categories can be understood and used by others, are transferable, but are not best chosen to identify the categories.

- By using the same learning conversation categories to analyse the answers from Inquiry I and from Inquiry II, it was possible to see that some differences were due to the difference of vantage point (remembering back to the past/describing something happening in the present), some differences arose because some questions required an abstract and some a concrete response. The rationale for building in these different vantage points, and the affect that they have on the any findings, are described in the next section.
- The implication was that some of the responsibility, perhaps the major responsibility, for identifying the categories should therefore remain with the subjects of the research. If imposed later by the researcher, acting in isolation from the group, an important opportunity for interpretation and illumination by the students themselves was being missed.

It was thought that the imposition of an additional task would add to the complexity of the activity with students and raise a further problem of the 'categorisation of the categories'. No such system was tested with Foundation art students.

- ● ● However, with hindsight, the learning conversation seems such a classically simple scheme to explain that students might well have been asked to classify their own elements before handing

them in. This would distribute the burden of analysis down the line in a effortless manner. Equally the classification would be more accurate because students would be in the best position to say what their elements mean.

Using questions to explore different perspectives.

● The questions put to the Foundation students about their conceptions of the project method and how it helped them to learn approached the topic from a variety of different perspectives (in the same way that a surveyor uses triangulation). It was hoped that these multiple perspectives encourage the fullest possible exploration of the topic. This in turn should ensure that their comments were not only local, specific and tied to their most recent experience. So rather than limiting the scope of the questions so that answers could be in some way controlled or matched, the scope was pushed out to its furthest extent.

● The perspectives lay along the following planes or dimensions:

abstract _____ concrete
recognition _____ expression
self _____ other
best project _____ worst project
self-taught _____ institutionally-taught
present experience _____ past experience
small group _____ large group
more important _____ less important
previous opinion _____ current opinion
'How does the project method help you to learn?' _____
_____ . . . not help you to learn?'

(Note that it was not the researcher who was required to search along these dimensions, but the students.)

- The questions that required the students to 'search' mentally along these dimensions were as follows:
 - abstract / concrete -
the definition of a project / the concrete descriptions of best and worst projects (Inquiry I)
 - recognition / expression -
the writing of their own elements/ the borrowing of elements they recognised as important (Inquiry II)
 - self/ other -
as above, the three ranking procedures (Inquiry II)
 - best project / worst project -
Inquiry I
 - self-taught / institutionally-taught -
Warm-up exercise at the beginning of Inquiry II
 - present experience / past experience -
'How does the project method help you to learn?' (Inquiry II)/ Best and worst projects (Inquiry I)
 - small group / large group -
second and third ranking procedures (Inquiry II)
 - more important / less important -
the ranking procedures, (Inquiry II)
 - previous opinion / current opinion -
Inquiry (III)
 - 'How does the project method help you to learn?/. . . not help you to learn? -
Inquiry II, Inquiry III.

As a result of attempts to handle data collected along so many different dimensions, it was concluded that: -

- the form of the question will dictate the form of the reply - an abstract question will get an abstract reply
- the different vantage points will determine the perspectives from which the items are viewed. A question pointing back to the past will filter out much of what might be remembered in the present.

- The principles of project design applied in other disciplines -

CHAPTER 9 : THE APPLICATION OF PRINCIPLES OF PROJECT DESIGN TO OTHER
FIELDS

This chapter describes:

- a special project designed to restore the good working relationship between the researcher and the Foundation students.
 - Projects designed for students in the Applied Sciences.
-

- An 'intervention' to improve the relationship between researcher and subjects.

The attendance of Foundation students diminished substantially in the middle years of the five year research period. (See Fig. 5) My teaching contribution to Art and Design had decreased steadily from 1983-4. New responsibilities required my presence in another building. This new shift of attention to other aspects of education, particularly to staff development and staff training, when combined with the fact that I was now only rarely in the Art and Design building, meant I was not so well-known to the students, and therefore in their eyes must have seemed an outsider.

My solution to this difficulty was to increase my work with Foundation and to try and re-build a good relationship with the. (See Parlett, 1972).

- The principles of project design applied in other disciplines -

I offered to take the entire group of 65 students for a 14 week course. Each week the whole of one morning would be set aside for this course.

The theme was the origins of the Second World War. We would study the period 1918 - 1945, looking closely for the roots of the war in the arrangements at the end of World War I, and in the social, political and economic upheavals that took place between the wars. (The briefing sheet is reproduced in Fig.30)

- This subject was chosen because an incident had occurred a few weeks earlier which showed the ignorance and insensitivity of students concerning the war period. Several students had arrived for a fancy dress party dressed in hired Nazi uniforms. A lecturer who had been in the Dutch resistance and had seen his family and friends die at the hands of Nazis was outraged and demanded that they leave. A fight broke out and police were called. It was a most distressing and regrettable event.
- The trial of Klaus Barbie was being held and was widely reported in the press and on television. There were also a surprising number of additional news items relating to the war period being published before and during the 14 weeks of the course.

- The principles of project design applied in other disciplines -

- Each week there would be a factual introduction with ample printed documentation, followed by screenings of newsreels, documentary films, slides, posters and feature films. We would compare what we learnt from the contemporary film material with what we learnt from films made today which might have the benefit of hindsight. This would enable us to discern more clearly the role of the film-maker and the influence on his film making of his political beliefs, or pressure from his government.

The students had three tasks.

1. They were to keep a folder of all the materials they were issued, and to keep a running record of what they learned each week that was totally new to them. In particular, they were to try and capture their own response to what they were learning.
2. They were to add to the folder newspaper cuttings and articles that demonstrated that the legacy of the Second World War was still in evidence today.
3. Finally, they were to create a work of art that communicated to others what they felt they had learned during the the course. It could be a painting, a collage, a poem, a piece of writing. The project was to see whether it was possible to convey adequately in art these complex and powerful themes.

- The principles of project design applied in other disciplines -

At the conclusion of the course, each student exhibited what he had done. Other staff were invited to visit and comment. Students were to write 'crits' for any five pieces of work and to pin them to the exhibit, like kite tails. (In the event, many more than 5 crits were written by each student, and some posters had kite tails of up to fifteen crits. This gave a very great deal of feedback to each individual artist.

The work done by the students was of a very high quality. The results showed the engagement of both thought and feeling. There was virtually full attendance throughout the course and every student submitted the required work on the exhibition day. (A selection of the smaller posters were photographed and prints are included in Fig.31)

The principles that were being applied in the design of this course were as follows:

- that the topic should be important and relevant to the whole of the student's life, not just to his/her studies.
- that students should have a degree of personal choice in selecting precisely what to study
- that there should be an end product of high quality which could be viewed with pride
- that there should be opportunity to work with and to learn from others.

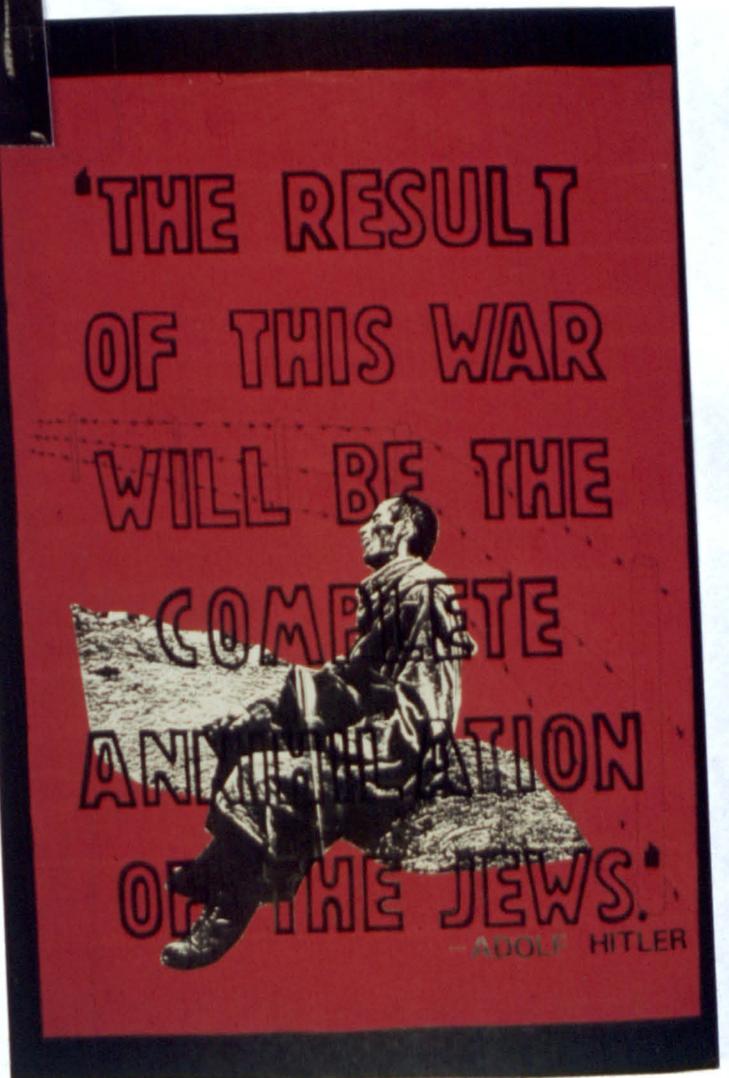
- The principles of project design applied in other disciplines -

- that fellow students should act as audience and assessors and provide a wider public
- that proper support should be given for whatever skills were required (e.g., help with information retrieval in the library)
- that a clear schedule and proper briefing from the outset should ensure that the project was manageable and viable.

The week following final presentation of student work on the World War II project, Inquiry II was held with that group. The quality of their response was excellent. The figures in the following table show how great an impact this intervention had on the response rate for this year group.

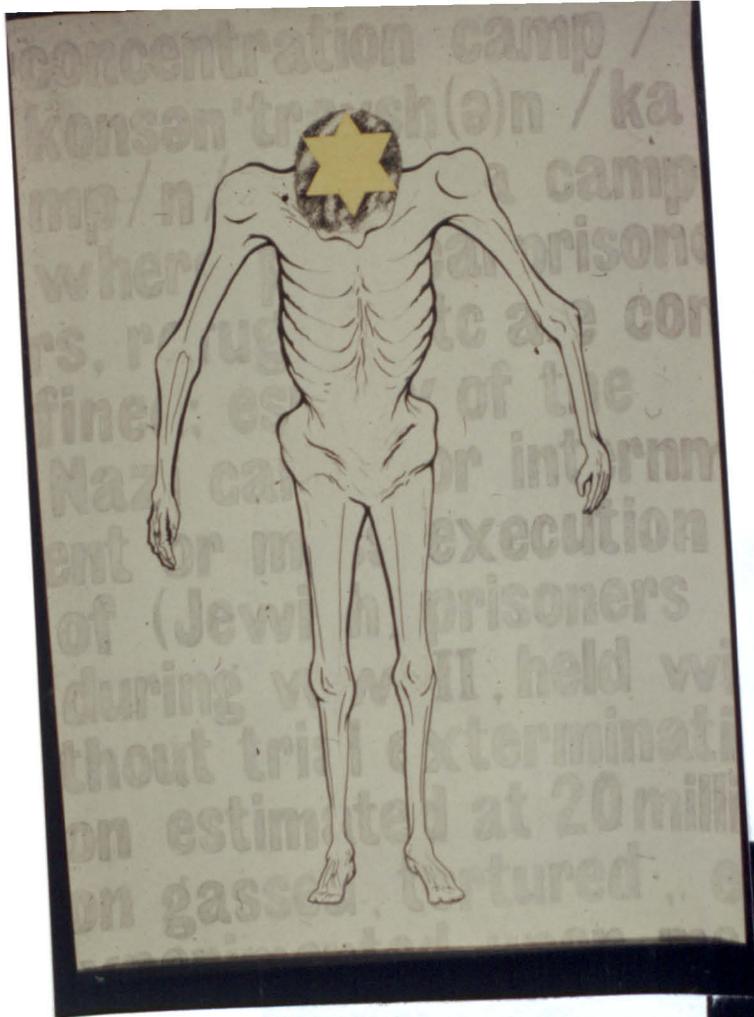
COMPLETED RESPONSES BY YEAR

	INQUIRY I	INQUIRY II	INQUIRY III
1982 - 83	47	29	20
1983 - 84	74	44	-
1984 - 85	60	13	4
1985 - 86	64	6	6
1986 - 87	65	Intervention project 44	22



POSTERS CREATED BY FOUNDATION STUDENTS (1986-7) DURING THE PROJECT ON WORLD WAR II (contd)

Students were asked to design a poster to communicate to others something of what they had learned, together with some indication of what they felt about what they had learned.



POSTERS CREATED BY FOUNDATION STUDENTS (1986-7) DURING THE PROJECT ON WORLD WAR II (contd)

Students were asked to design a poster to communicate to others something of what they had learned, together with some indication of what they felt about what they had learned.



POSTERS CREATED BY FOUNDATION STUDENTS (1986-7) DURING THE PROJECT ON WORLD WAR II (contd)

Students were asked to design a poster to communicate to others something of what they had learned, together with some indication of what they felt about what they had learned.



EYES THAT LAST I SAW IN TEARS

EYES THAT LAST I SAW IN TEARS
THROUGH DIVISION
HERE IN DEATH'S DREAM KINGDOM
THE GOLDEN VISION REAPERS
I SEE THE EYES BUT NOT THE TEARS
THIS IS MY AFFLICTION .

THIS IS MY AFFLICTION
EYES I SHALL NOT SEE AGAIN
EYES OF DECISION
EYES I SHALL NOT SEE UNLESS
AT THE DOOR OF DEATH'S OTHER KINGDOM
WHERE, AS IN THIS
THE EYES OUTLAST A LITTLE WHILE
A LITTLE WHILE OUT LAST THE TEARS
AND HOLD US IN DERISION .

T.s.elliot.



"Forgetting would be as
much the absolute injustice
just as Auschwitz was
the absolute crime"

Elie Wiesel . Nobel peace prize Winner . Survivor of
Auschwitz .

POSTERS CREATED BY FOUNDATION STUDENTS (1986-7) DURING THE PROJECT ON WORLD WAR II (contd)

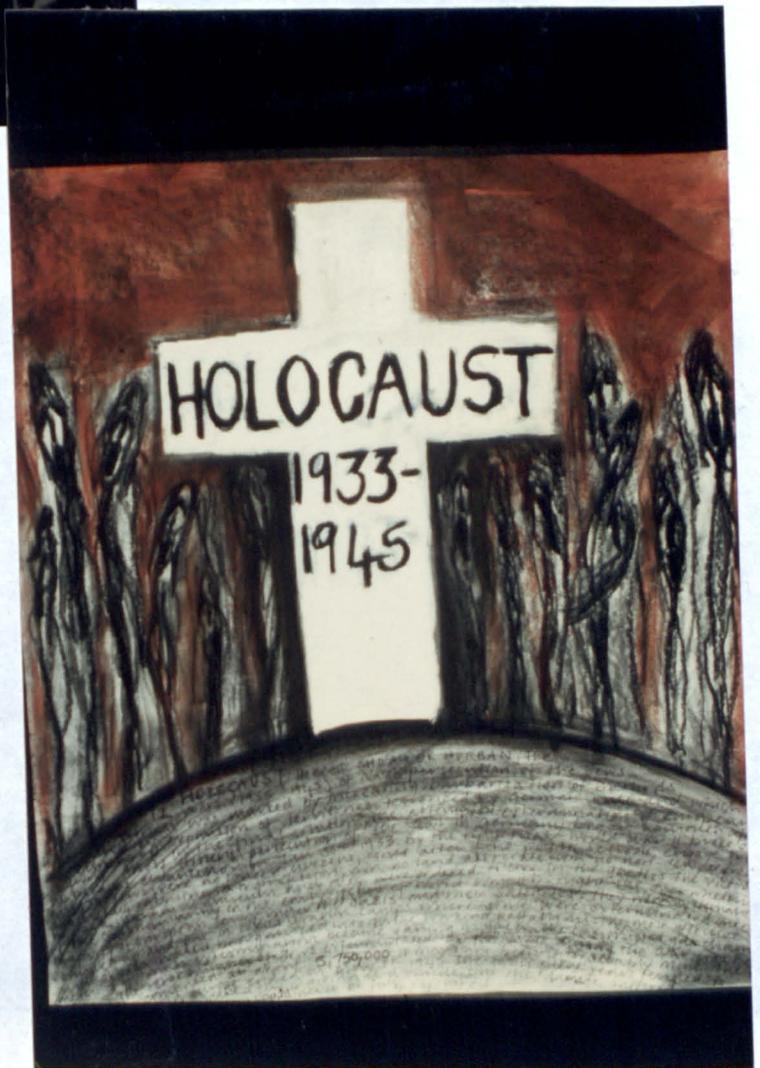
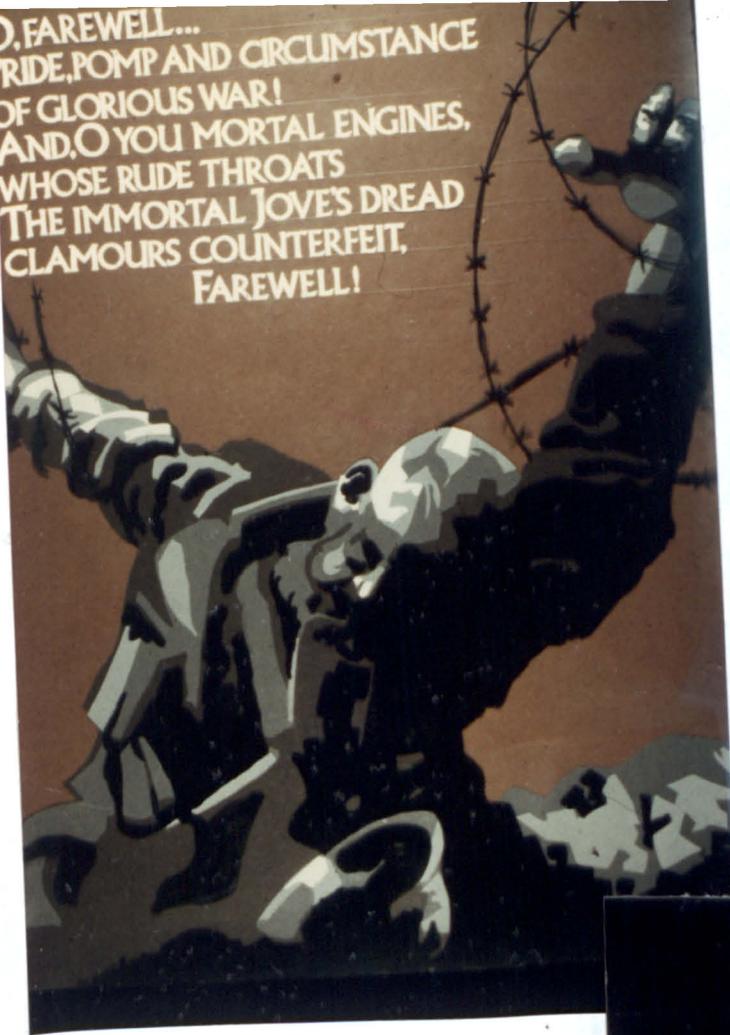
Students were asked to design a poster to communicate to others something of what they had learned, together with some indication of what they felt about what they had learned.



POSTERS CREATED BY FOUNDATION STUDENTS (1986-7) DURING THE PROJECT ON WORLD WAR II (contd)

Students were asked to design a poster to communicate to others something of what they had learned, together with some indication of what they felt about what they had learned.

O, FAREWELL...
PRIDE, POMP AND CIRCUMSTANCE
OF GLORIOUS WAR!
AND, O YOU MORTAL ENGINES,
WHOSE RUDE THROATS
THE IMMORTAL JOVE'S DREAD
CLAMOURS COUNTERFEIT,
FAREWELL!



POSTERS CREATED BY FOUNDATION STUDENTS (1986-7) DURING THE PROJECT ON WORLD WAR II (contd)

Students were asked to design a poster to communicate to others something of what they had learned, together with some indication of what they felt about what they had learned.

WANTED!

FOR MURDER, THEFT, KIDNAPPING, ARSON...

Last heard of in Berlin, September 3rd 1939. Aged 50, height 5ft. 3 1/2 in. dark hair, frequently brushes one lock over left forehead. Blue eyes, yellow complexion, stout build, weighs about 11st. 3 lbs.



Suffering from acute monomania, with periodic fits of melancholia. Frequently bursts into tears when crossed. Hoarse guttural voice and has a habit of raising right hand to shoulder level. Dangerous!

ADOLF HITLER

FOR MURDER - Wanted for the murder of Dr. C. G. L. ...
FOR THEFT - Wanted for the theft of ...
FOR KIDNAPPING - Wanted for the kidnaping of ...
FOR ARSON - Wanted for the incendiarism ...

... of ...
... of ...
... of ...
... of ...

... of ...
... of ...
... of ...
... of ...

... of ...
... of ...
... of ...
... of ...

JEW FAT SOAP

BY

KLAUS BARBIE

4 TOILET AND 1 BATH TABLET

PER **1/3** BOX

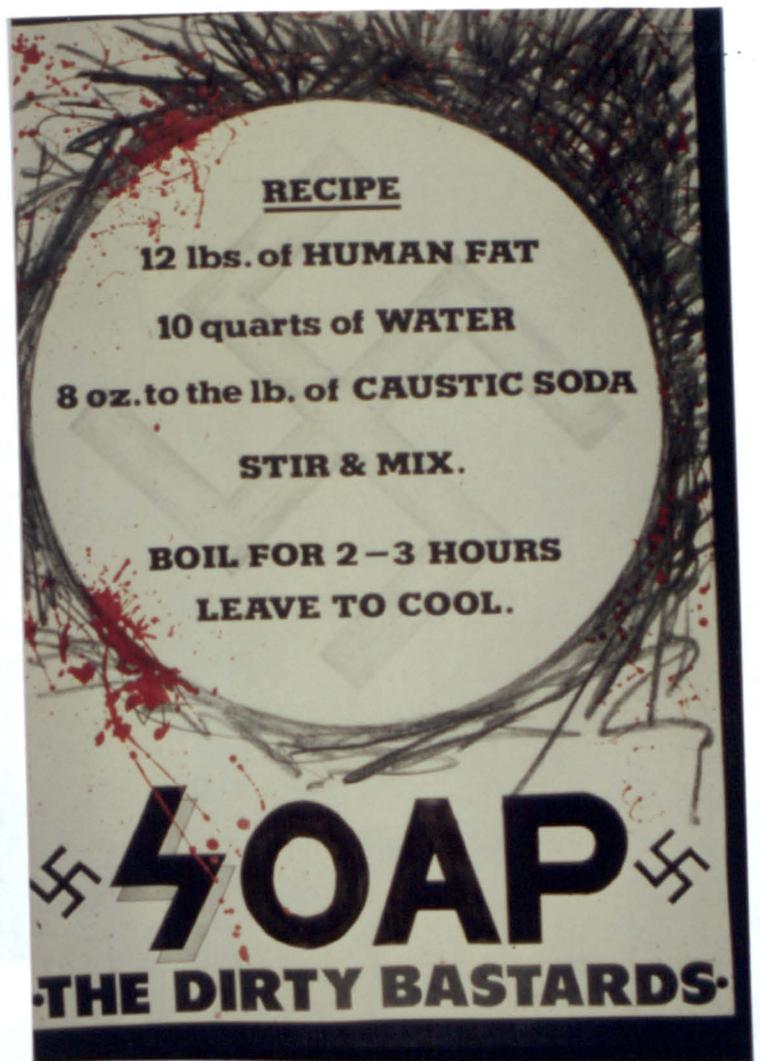
NETT WEIGHT ONE POUND

STOCKS OF THIS AND OTHER **BARBIE SOAPS**

OBTAINABLE IN THE GROCERY DEPARTMENT

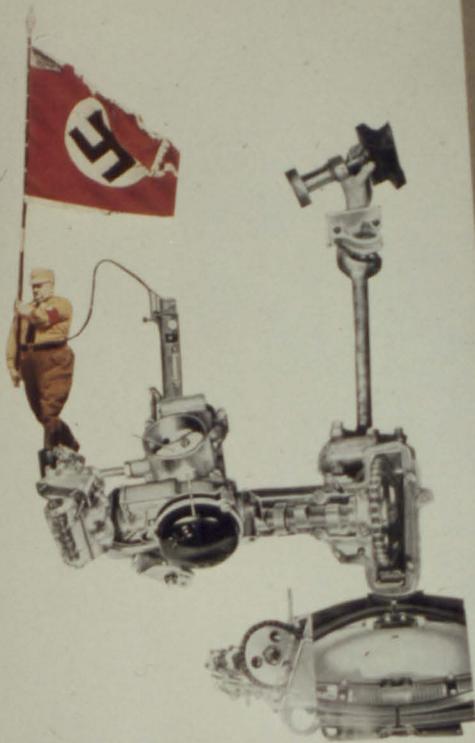
POSTERS CREATED BY FOUNDATION STUDENTS (1986-7) DURING THE PROJECT ON WORLD WAR II (contd)

Students were asked to design a poster to communicate to others something of what they had learned, together with some indication of what they felt about what they had learned.



POSTERS CREATED BY FOUNDATION STUDENTS (1986-7) DURING THE PROJECT ON WORLD WAR II (contd)

Students were asked to design a poster to communicate to others something of what they had learned, together with some indication of what they felt about what they had learned.



Bound to the desert of war.

POSTERS CREATED BY FOUNDATION STUDENTS (1986-7) DURING THE PROJECT ON WORLD WAR II (contd)

Students were asked to design a poster to communicate to others something of what they had learned, together with some indication of what they felt about what they had learned.



POSTERS CREATED BY FOUNDATION STUDENTS (1986-7) DURING THE PROJECT ON WORLD WAR II (contd)

Students were asked to design a poster to communicate to others something of what they had learned, together with some indication of what they felt about what they had learned.



Yesterday or Tomorrow?



POSTERS CREATED BY FOUNDATION STUDENTS (1986-7) DURING THE PROJECT ON WORLD WAR II (contd)

Students were asked to design a poster to communicate to others something of what they had learned, together with some indication of what they felt about what they had learned.



POSTERS CREATED BY FOUNDATION STUDENTS (1986-7) DURING THE PROJECT ON WORLD WAR II (contd)

Students were asked to design a poster to communicate to others something of what they had learned, together with some indication of what they felt about what they had learned.

- The principles of project design applied in other disciplines -

Projects for students of the Applied Sciences

The Educational Development Unit regularly conducts classes that are designed to teach communication skills and information retrieval. One such project, the Social Application of Science, has stimulated the students to produce work of a very high standard and is now part of the regular programme for many degree and diploma courses.

[The table on the following page shows the number of classes, the average number of students in each class, and the number of weeks of teacher input for each course.]

- The principles of project design applied in other disciplines -

Course Code	Details of Course	Average number in class	Number of contact hours with staff received by any one student
BGL/1	Degree/ Geological Sciences	60	6
BHAC/1	Degree/ Applied Chemistry	25	6
BEM/1	Degree/ Estate Management	40	6
BQS/1	Degree/ Quantity Surveying	40	6
BCS/1	Degree/ Computer Science	80	8
BID/1	Degree/ Information Systems	70	8
HDC/1	Diploma/ Chemistry	30	8
HDC/2	Diploma/ Chemistry	20	6
HCC/1	Certificate/ Chemistry	25	4
HOAP/2	Diploma/ Applied Physics	25	6
HCAP/2	Certificate/ Applied Physics	20	6

Staff are present on certain weeks in order to perform the following duties:

- The principles of project design applied in other disciplines -

- introduce the project and discuss the briefing notes.

- to receive instruction from the information librarian, and to discuss the library briefing sheets

- to discuss the individual outline plans and provisional bibliographies that have been submitted

- to hear the oral presentations. (With large classes, additional staff may be present to share in the assessment process,, or extra sessions may be timetabled to accomodate all speakers. Each individual is allowed 15 minutes, each group, 30 minutes).

- to organise peer assessment of the project work. (Each student will write a critical assessment of any two reports. The student reports will themselves be marked and returned to the project authors as additional feedback.)

Despite the low staff input into these projects, the quality and quantity of the work done by students is high. Staff are amazed at the standard achieved by students who are struggling to pass in their main study. Yet all this work is done unaided by staff - students are borne along by the power of the group, by good resources, by the power of the idea, by determination to shine in a public performance. They become truly self-organised learners.

- The principles of project design applied in other disciplines -

The Educational Development Unit believes that its system is rugged and withstands local variations and disruptions (e.g. a student may see three or four different staff during the project, not necessarily just one.)

The principles have already been noted with regard to the Foundation project, but they are worth expanding on in this context.

- The topic area should be important and relevant to the student as a person, and to his/her life as a whole, as citizen, consumer, employee, friend, partner. The topic should not focus narrowly on a subject discipline. Therefore the majority of projects take as their theme 'The Social Application of Science' and deal with environmental problems, ethical and moral dilemmas (abortion, genetic engineering), nuclear and alternative sources of energy, artificial intelligence and automation. Those projects that do not have this title still focus on the interface between the topic under study and society as a whole.
- Students should personally choose the topic they wished to study, and determine the exact nature and boundary of the topic. The students were to own the content, the information, the knowledge. Specialist knowledge would not be seen primarily as territory occupied by staff. In almost all the projects, out of hundreds that have been completed, the student knows more, and knows it in greater detail, than the lecturer. The freedom to choose allowed students

- The principles of project design applied in other disciplines -

to stay close to their main discipline or to try something unrelated and new. (There is usually a 50/50 split in this respect.)

- An end product of high quality should result which can be viewed with pride. Every assistance is given by staff to help them reach a high standard. The presentation of data, the selection of illustrative material are all taught as skills to ensure high standards.
- An opportunity to work with others is vital to the success of the projects. Though most of them are done by groups or teams, in the case of individual projects, students are assigned to an 'umbrella' topic - one which includes half a dozen students pursuing related topics (e.g., nuclear power, fission vs. fusion, disposal of radioactive waste, Chernobyl, Three Mile Island.) Members of the umbrella group are encouraged to share references, discuss problems, to ensure that they do not encroach on one another's territory.
- Fellow students should play a major role as audience and critics of the final product. Submitting work for a tutor is an artificial exercise. There is no real sense of communication in telling someone who knows more than you do about his own specialism. But there is real communication in telling someone about something new to him which you have mastered. The peer group is the best judge of your mastery. The lecturer is there as a back stop to see that no major error or oversight has crept in.

- The principles of project design applied in other disciplines -

- Assessment is 'the tail that wags the dog'. Students will work in the way that they will ultimately be assessed. If there are substantial marks for oral presentations, high quality visual aids will be prepared, rehearsals will take place; if there are no marks for it, some may arrive ill-prepared, or fail to arrive at all. Therefore a clearly set out assessment schedule drives the project in the right direction. An outline plan and provisional bibliography ensure the topic is viable, the oral presentation exposes the arguments to debate and ensure the students have gathered adequate material. A system of distributing marks among the group, if known from the outset, ensures that all members pull their weight or forfeit marks.

It should be remembered that the great majority of the work is done in the first term of the first year. In that context, the standard reached in the project is often higher than that reached in the parent discipline.

For that reason it might be appropriate to repeat the observation of Alastair Morgan,

"In project work, students are taught less but learn more; in formal teaching, students are taught more, but learn less."

CHAPTER 10 : CONSULTING STUDENTS ABOUT THEIR COURSES

This chapter relates how the pyramid or snowball technique used in Inquiry II was used as the procedure for consulting students about their experience of the course. Modifications were introduced to simplify and streamline the technique still further. In addition, the reporting back to staff was given particular consideration as communication and assisting change were seen as essential components the evaluation cycle.

At this Polytechnic, the Educational Development Unit has been interviewing students to discover what the educational experience of studying on their course has been like. This is done by meeting each year group in turn, conducting a structured conversation with them, and writing up a report based on the interviews. The report is then given to whoever commissioned the report which is usually the Course Leader or the Head of School. In recent years, the students of more than 35 degree, diploma, certificate and post-graduate courses have been interviewed, at an annual rate of approximately 12 complete courses per year. The occasion that prompts a request for this service is most commonly the process of revalidation, but it may also

- Consulting students about their courses -

be a wish to monitor a new or a substantially altered course. In revalidation, the CNAAs ask for evidence that the students have been consulted and this report provides that evidence. An interesting development is that requests are now being made to consult students one year, or even two years, in advance of resubmission, in order to show that not only have students been consulted, but that recommendations have been implemented, the changes evaluated and the results recorded.

The procedure that has been adopted is extremely simple, perhaps deceptively simple, but extremely effective. It collects an enormous amount of detailed and thoughtful comment, accompanied by equally detailed and thoughtful proposals for change. It is also comparatively quick, very flexible, and unlike questionnaire design, needs no planning or piloting in advance. Each meeting takes about one and a half hours, and the report takes from 8 - 12 hours to write.

The procedure is described in some detail because it is by attention to detail that the spirit of the exercise is preserved.

- Consulting students about their courses -

THE THREE-STAGE PROCEDURE or PYRAMID EXERCISE

The students of a year group are brought together for a period of approximately one and a half hours. They are told that they will be evaluating their course. None of their own staff are present. Two members of the EDU conduct the meeting, one explaining each stage and chairing the discussion, the other making a running record of the discussion on the overhead projector in full view of the class.

● Stage I: Individuals write a personal list.

The two Educational Development staff introduce themselves briefly and describe the object of the exercise - to consult with students and find out what they think about the educational experience of being on the course.

● First the students are asked, on their own and without any discussion with their neighbour, to write down on a spare piece of paper what they think about their course.

● They are told: "We are interested in anything that affects the way you learn., "

Any notes are for their own benefit and will not be looked at or collected in at the end. They may if they find it helpful divide

- Consulting students about their courses -

the paper in two and list on one side those aspects of the course they wish to praise and to see preserved, and on the other those aspects which are less satisfactory. If they make negative comments, they are asked to explain how they would like the problem to be remedied or to propose their own suggestions for change.

At no point is any agenda or list of questions or topics put before the students. This is to ensure that what emerges for discussion is what is significant for this group of students, and not what the staff assume are the key features of the course.

This first stage is conducted in silence and lasts from five to ten minutes.

● Stage II: Small groups compile a common list of topics in order of importance

- For the second stage, the students are formed into groups from four to six people. They are asked to move so that they can see all members of the group comfortably and can establish eye contact with one another. They are asked to appoint a spokesperson and to compile a common list from all their individual lists, putting the topics in order of importance. This ensures that the plenary discussion will consider major issues first and that these issues

- Consulting students about their courses -

will receive adequate time for debate. Minor points can be gathered up quickly at the end. This stage lasts from twenty to thirty minutes.

The small group stage is always a period of animated exchange. On no occasion has any group been discovered not giving its full attention to the task in hand. The vigorous processing that is taking place during this period means that the plenary session can move surprisingly fast through complex issues because they have been so thoroughly rehearsed in the small group.

● Stage III: In rotation, small groups contribute in turn until all points have been made public.

● For the third stage, the year group comes together as a whole. The small groups take it in turn to read out their points in order of importance. The discussion is summarised in a running record on the overhead transparencies. The students are asked to read what is being written to check that it is an accurate report of their discussion, because what is written will serve as a basis for the report. Therefore the form of words must be agreed for each point before moving on to the next one. However, everything that is said is confidential.

- Consulting students about their courses -

The ground rules for the consultation meeting have evolved over time. They are not announced in advance, but they are mentioned whenever there is a query about confidentiality or the style of the eventual report.

If students wish to praise any member of staff, the name can be recorded in the report as an exemplar or model of teaching behaviour. The precise nature of the qualities being praised are spelt out - e.g., 'provides well-structured handouts and notes', 'excellent and helpful tutorial style', 'enthusiastic and inspiring lecturer', 'helpful annotated reading lists'.

However if students criticise any lecturer, the name will not be included in the report because it would prevent publication and therefore be an obstacle to change. The complaint must be couched in general terms and describe the behaviour or action that is at fault rather than the person. The EDU staff when handing over the report to the course tutor who commissioned it can if necessary make sure that there is no confusion about who is the subject of comment and that another member of staff is not wrongfully identified with the complaint.

At the meeting the one member of the EDU take the duties of chairman and the other of scribe. They may on occasion join in the discussion and inform students of reasons for, or underlying causes of, the problems being debated. This is to inform and raise

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the level of debate and to draw more realistic recommendations from the students.

REASONS FOR CHOOSING THE THREE-STAGE PROCEDURE

The points that emerge from this pyramid exercise paint a truer picture of the students' experience of the course than do responses to a questionnaire which has been prepared by a course team, or than do responses to a general commercially-devised questionnaire like *Courseview*. A prepared questionnaire or set agenda gets in the way of the students' strongly felt personal reactions. By the time the students have waded through a comprehensive list of questions on what the staff believe the course is about (i.e. perceived from the centre of their universe), the original fresh responses from the students have been diluted and side-tracked.

As the items mentioned on each individual student's list are discussed twice before they reach the final written report, they have been very thoroughly processed.

THE STRENGTHS OF THE STUDENT CONSULTATION MEETING

This thorough processing has many important benefits:-

- each point is profoundly understood by the time it is summarised on the overhead projector. By comparison, responses in a questionnaire may be crude, undigested and the implications not completely understood even by the person making them.
- the appointing of a spokesperson to speak publicly from a common list preserves the anonymity of the original authors of the comments.
- often a point raised by a student is a 'presenting problem' (ie, the problem presented by a patient in a doctor's surgery as a physical ailment but which masks a deeper, more complex problem, perhaps with an emotional or psychological aspect.) By discussing items first in the relative security of the small group and again later in plenary, the presenting problem is being explored and it is more likely that its true significance will be uncovered.
- a minority point will be thoroughly argued and only if the minority insists will their point be reported, with a note that it was a disputed point. Sometimes a show of hands will indicate the degree of support there is for that item. Thus many trivial grudges do not reach the report because they are defeated in

debate. This raises the quality of the written document because it does not read as a litany of complaint. Above all, the plenary session is concerned with reaching a consensus view.

- the two arenas of discussion, small group and large group, allow anger or distress to be vented and dissipated, if that is appropriate, or strengthened and focused, if that is more appropriate. Students are then better able to handle their hostility and to propose changes and improvements in a constructive manner. They move from the affective to the cognitive domain. Most of the grievances have been talked over among friends, but they will not have been aired before the whole group. After hearing that individual problems are shared, and seeing that a consensus is reached, there develops a feeling of solidarity and confidence in the outcomes of the report. Out of this growing confidence develops either a spirit of rationality and generosity or a new determination to improve conditions.
- the meeting is an educational experience for the students in a way that filling in a questionnaire can never be. In a questionnaire there is no possibility of a conversation, dialogue or debate. One cannot really learn very much from filling in one's own replies to someone else's questions. With a questionnaire the group exchange is entirely missing : there is no debate, no sharing of the experience of others.

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- The students value the chance to voice their opinions and feelings so fully and to know that their views will be communicated to those who might be able to do something about the issues raised. They are taking part in an exercise which is both educative, therapeutic and enjoyable. Exercises of this nature have been described (Revans, 1986) as 'the upward communication of doubt' and can be a crucial part of industrial relations in the workplace, or of developing political aspirations and strategies in society.

At the end of the meeting, students often spontaneously thank the two staff for running the session and for acting, as one student put it, as a 'buffer zone'.

THE WRITTEN REPORT

The report is written by one of the two EDU staff present at the meeting and checked against the original notes by the other.

The report is written as soon as possible after all student meetings have been held so that the complexities and subtleties of the discussion have not faded from memory. The transparencies are photocopied and the pages divided into the separate points. These points are clustered according to broad themes that emerge. Attempt

is made to capture the atmosphere and style of the meeting and particularly vivid turns of phrase may be quoted.

The themes are those raised for that particular course but many themes recur across all courses. The structure of the course, the weighting of various parts of the course, the quality of lecturing and tutoring, the availability of library books, assessment and marking, and feedback generally, are all topics which are dealt with by almost every year group.

The order in which the topics are discussed in the report is often different from the order in which they were discussed at the meeting. If the report opens with statements of appreciation and of praise for the course as a whole, it helps to smooth the path of any changes proposed later in the text. These positive comments are expressed fully in order that they make a strong initial impression. The members of the course team are more likely to accept criticism if they read it against a background of warm appreciation and praise for their efforts. If staff wish to believe that the praise is justified and their students are discerning, they will have to attend to criticisms as well.

One way of handling critical statements is to rewrite them into their opposite form, prefaced by the phrase, "In an ideal world. . ." The

section describing the ideal version can then be followed by the observation, 'These conditions do not prevail . . . '.

The writing of the report is a major and demanding task, and is a fourth cycle of processing of the student comment. Often, the subtext of the items has to be spelt out so that it does not go unobserved.

The reports do not make use of number. There are no statements of 'percentages favouring x and percentages believing y.' Only in the case of a disputed point is the number of objectors recorded. The essential meaning of what the students say is best conveyed by the subtle instrument of language, by explanation, by interpretation, not by bald numerical totals. In the words of my colleague from the EDU: 'Number is not truth.'

However, we are always being pressed for number by the parent schools. We see two possible ways in which we might accede to this request:

- by designing a questionnaire or itemised report based on a normal student consultation meeting. That could be circulated for students to agree or to disagree with, and their replies could be counted (and subjected to statistical proofs.)

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- a thesaurus count can be made of key topics. This is a useful way of comparing one report to another. What is listed paired with word 'good', with the word 'Maths', and so on.

THE USE MADE OF THE REPORT

One copy of the report is given to the person who commissioned it, usually the course leader or the Head of School. It is then the property of that person who can choose to do whatever he wants with it.

There are no written recommendations as to what should be done to follow up the report, though the EDU is always willing to discuss possible ways of following through and tackling some of the issues.

The extent to which the final document has circulated has varied. So far, the following variants have been noted.

The course leader may have :-

- copied the whole document as it stands to all students and all staff of a school.

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- copied the whole document as it stands to all staff of the School.
- copied the whole document as it stands to all staff on the course team.
- copied the whole document as it stands to all staff and to student course representatives of each year group.
- written a brief abridged version and circulated it to all staff and students, or to staff of the School/course team. This have been done either to save the paper and photocopying costs, or because certain phrases were thought to be injudicious.
- released the full document to two or three key staff only, and reported orally at staff meetings to the rest of the course team on the issues contained in the document.
- retained the document, and made no copies for circulation to any staff or students.

There has not seemed to be any correlation between the contents of the document and a reduced circulation. The only detectable correlation was between the degree to which the Head of School was closely and personally identified with the course being reviewed, and having no other course running in the School, felt sensitive personally to any criticism.

The most common circulation pattern, for reasons of economy, has been to make a copy for all staff on the course team and to provide copies for the student course representatives to show to their year group.

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The report is usually discussed at the next Board of Studies. On occasions a special meeting is set aside to discuss the report fully.

The EDU may be invited to the Board of Study at which the report is discussed, or the commissioning Head of School or course tutor (or both together) may discuss the report in detail with the EDU at a separate meeting.

The points raised in the report have been very thoroughly processed by the students during the meetings, and by the EDU writer of the report. But the contents may seem surprising and even unfamiliar to the staff when they read it through for the first time. The staff may also need time to process what they are reading.

RECURRING THEMES IN THE REPORTS

The meetings and the written reports constitute a wealth of data. Each meeting produces from 10 to 25 sheets of overhead transparencies. The finished report runs from 8 - 16 sides of A4 single spaced typing. To read the documents is to experience something of what it is like to be a student in Britain in the late 1980's.

Though there is of course an enormous range and diversity of comment, there are themes that recur across all courses and all subject disciplines.

This section describes some of these recurring concerns.

- Students are in the main appreciative of their courses. Their chief wish is for a high quality course, not an easy one. They appreciate the care and hard work that has gone into designing them, into ensuring that they are up-to-date. In the main they find their teaching staff approachable and supportive. The majority of lecturing and tutoring they consider to be of high quality. There content of the course is usually acceptable and often praised. There is appreciation for the practical aspects of Polytechnic course, the possibilities of industrial experience in sandwich courses, a year abroad in some courses with (or even without) a language component. There is high praise for the field trips whether they are short one-day trips or a testing month alone mapping in the Pyrenees. It is

significant that much of the praise and appreciation are for those aspects of a course that one might call curriculum design. (B)

- Course delivery is more of a problem than course design. The areas where complaint and criticism is most often lodged are those of course delivery. The course as experienced by the students is a pale approximation of the splendid course described with such pride and enthusiasm in the course documents for CNA A validation. Some of the problems could be resolved if the matters were treated as priority, some of them are directly connected with lack of resources, and some of them indirectly connected with long-term lack of investment in Polytechnics which has affected the deployment of staff. (C)

- The British higher education course is designed a a whole (modular courses are excluded from this observation). But the parts do not relate well to the whole. Some of the recurrent complaints refer to poor organisation and lack of communication: lectures cancelled without notice, lack of communication between subject lectures leading either to duplication of material or to gaps in essential information. Often arrangements are made at too short notice. Some details of a course may not have been well-enough explained. There is often an uneven balance of work expected of different subjects or of different options, so that one student might be doing considerably more and working at a more advanced level than his neighbour. Sometimes the marks seem similarly unfairly w^aighted and

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there is felt a need for those marks to be moderated in some way. (B)

- The quality of tutors that is most appreciated is their approachability. There is a great deal of tutoring and pastoral care (far higher than would be found in a university.) (A)
- Some problems arise from poor lecturing and tutorial skills. Some lecturers cannot be heard or speak incoherently, or deliver lectures that are without structure. Sometimes they project sheet after sheet of handwritten notes on the screen or copy them on to the board, often talking at the same time and giving additional information or explanations. The students race to cope with the dual burden of projected and spoken information and later find it difficult to interpret their scribbled notes. Students request that vital information should be issued on handout so that the lecture period can be used for many other purposes and not just for the transmission of a set of notes from the lecturer's file to the students' files. (A/B)
- Other problems are the direct result of lack of resources. There may only one or two copies of a book in the library which is key reference for an essay being set for 65 students. Sometimes the books available for an entire year group are in short supply, either because funds are not available, or the lecturer was not able to order the books at the end of the previous year. The students observe that the library is well-stocked with books published before

the early 70's but starved of books ever since that date. The booklists themselves come in for criticism and so therefore do the lecturers who issue them. Why are so many books listed which are out of print and have been for years? Why is there no indication that the books on the list are not in the Polytechnic library so that half an hour on the microfiche will yield not one of them? Why is there no indication that groups of books cover the same topics, that some books are more vital than others, that a certain chapter is key reading but the others may be skimmed? The students realise that they are at a Polytechnic to be educated in the use of a library but they feel that there is a distinction between searching for books and journal articles to support an essay, project or dissertation on a subject they propose, and the background reading they need to flesh out their lectures. (B/C)

- A great many of the problems identified by students in the delivery of their courses could be resolved by better lines of communication, and a different perception of the role of the lecturer and the nature of the job in a Polytechnic in the 1990's. There must of course be a will to resolve these problems at course team level, and a better resource base at School level. (A/B)

- But some problems can only be resolved by a revised set of goals at the institutional level, particularly those relating to morale and the the institutional mission, to priorities for staffing and staff deployment, and above all of resources. Resources for libraries, for the environment, the rooms, the furniture. These institution-

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wide problems cannot be resolved by any amount of good will, hard work or change in attitude of the individual staff in course teams.

(e)

To conclude, the messages that emerge from the course evaluation meetings fall into the same three categories identified for the project method. The course is a Type B activity. But it is delivered by Type A people and consumed by Type A students. They both wish for Type C resources to support learning. But C is outside their control. A is within their control but they didn't know it was important.

It is hoped that this simple trio can capture the imagination of educational managers so that the course has the best possibility of success.

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SECTION I : DATA COLLECTED FROM FOUNDATION STUDENTS

INQUIRY I

A.	<u>Definition of a project</u> [typed scripts presented without comment]	1982-3 1983-4 1984-5 1985-6 1986-7
	(Summary table for each year in Work Box)	
	Table for all years	
B.	<u>Previous experience of the project method/ Conceptual model of project</u> Summary table and graph for each year	1982-3 1983-4 1984-5 1985-6 1986-7
C.	<u>Description of Best Projects</u> [typed scripts presented without comment]	1982-3 1983-4 1984-5 1985-6 1986-7
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APPENDIX : TABLE OF CONTENTS

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INQUIRY I

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B.	<u>Previous experience of the project method/ Conceptual model of project</u>	
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C.	<u>Description of Best Projects</u> [typed scripts presented without comment]	1982-3 1983-4 1984-5 1985-6 1986-7
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explore it on his own as no person is likely to be interested in exactly the same avenue of study and this will allow the student to find his own interests.

.....

Model C would seem best.

.....

Model A I feel is an adequate description of the possible type of project suitable for art and design. It is necessary, in order for the student to show his/her individual capabilities, to work preferably alone on a personal project. Even so a group project is very enjoyable and with different ideas put together, the result could be quite interesting.

.....

Out of Models A, B and C no particular one gives an adequate description of the kind of project suitable for art and design education. I do, however, think that certain parts of A B and C do show relevance to the type of project I see as suitable. I see the project as a means of developing general skills and attitudes. The application of facts when solving problems, possibly real-life tasks, and when making judgements is another important aspect. The use of learning resources is of importance as a certain amount of knowledge is required in order to attempt the project in a mature manner. The project should be set as the last section of the course so that the results may be used to assess the students' total knowledge and ability. Working in groups provides greater resources to draw on, but restricts accurate assessment of each member of the group involved in the project. Where assessment is the object of the project, the project must be attempted by the individual on his own.

.....

A combination of all three would be a good idea, but each type could be used at different times to be suitable for art and design education.

.....

Only parts of the models I would argue are suitable. For instance, learning to work independently is an essential to a painter. Being part of a group working as individuals, perhaps working to similar ends with similar objectives (like the Euston Road school) is far more acceptable than the group proposals in A, B or C. This aside however, the fundamental problem stills remains that is the idea of project work as being the best way to teach basic skills. There is no better way to learn to draw and to paint than from the life model. "No other subject is so demanding as a nude. No other offers such subtlety of tone and such tenderness of colour besides the obvious difficulties of drawing and the fact that any feebleness of construction will be instantly recognised. Painting a nude direct from the model is a classical subject..... and if it is less common today I can only feel sorry for those students and painters

who spend their time at what seems to me to be far less fascinating substitutes." Bernard Dunston RA
There's nothing else to add really, is there?

.....

I think it is possible to take certain phrases from each of the models to describe the kind of project suitable for art and design education. Independent research, considering other people's views, and advice, developing skills and knowledge, I feel are vital points to be included. I am also keen on demonstrations for various subjects and topics and illustrated lectures which aim to make points.

.....

I think that all three are necessary to a certain extent. the first type is up to the individual and if the individual cannot drive him or herself hard enough there is a possibility of little being learned. The second and third alternatives sound very effective. All three should be used - the last two are obviously more important on a psychological level and rewarding in terms of mental maturity to apply oneself to a task.

.....

Model C is the most fitting type of project for art and design given the enormous diversity and aims of the individual student. Formal advice and tutorship should be supplied as a back-up where necessary but the student should be free to develop and explore as he determines. Work should however be individually-based, but with reference to others in a broad and loosely-based group structure. There should be in addition be a permanent presence of tutorship to encourage diversification in the individual and to stimulate personal creativity. The project's purpose should be both to broaden the individual's awareness of surrounding factors, influences etc., and to allow personal development in a freely-chosen and unrestricted area. However in the context of a specifically Foundation course, the emphasis should be made on the former, with in addition an amount of formal technical tuition, to contribute to the project's success.

.....

Model A is good because there is no confusion as to what the pupil should be doing. The emphasis on the end of their studies, proportion of time allocated, individual work and on an agreed body of knowledge, shows that this is a good idea. I feel it is the best way as exams show. Model B is good in some respect because it allows the students to handle information. In the case of art and design this is important, to help with practice, etc. But the fact that a large proportion is introduced earlier is not so good because it loads onto the student too much all at once. Model C is not the ideal although it also is good in some respects but can cause some confusion and differences. Altogether the three are all possible but some more than others.

.....

Model C except there is too much emphasis on the group activity which is given less emphasis in Model B. Therefore a balance is needed between Model B and C. Models A and C appear the most suitable. Model A tests how the student has retained knowledge which is a good way of assessing one's work critically, whilst Model C tests initiative and ability. This kind of project is usually the hardest because you have no knowledge of the subject on which the project is based as in Model A.

.....

A project suitable for art and design education should have its basis in real life. It should set a problem, a task or instructions to be worked on by the student as though it were set not by a tutor but by a firm or company. The project could be done in groups or by individuals but with the aim of developing ability, applying known facts and handling information. The project for art and design is a combination of all three, A B and C, but then depending on the brief, it may be any one of the three. I think that Model B is the most practical form of instruction. For it is beneficial to both imagination and technique.

.....

Model B seems most suitable. Simulated real-life problems are necessary and valid just as the making of important decisions are. Although I believe it fundamental that a student should be able to work on his own, group projects often add confidence, more interest and valuable ideas.

I would not attempt at an alternative model, as each of the three models mentioned offer valuable points. Model A however I consider very old-fashioned. An individual should be allowed to a larger extent to show more of how he would approach the project as opposed to how the text book suggests.

.....

I feel that B and C provide a good mixture for art and design education. However I feel more emphasis should be placed on the individual therefore A working alone on projects and therefore developing personal style and direction. Some group projects will enrich a student's vocabulary and help from tutors should attempt to point a student towards his own direction but not over-influence him.

.....

Obviously none of these models give a totally adequate description of a project suitable for art and design. Indeed a combination of all is needed, largely because art and design covers a massive and infinitely varied number of models. Model C does however certain qualities lacking in A and B, largely because it sounds "arty" and therefore fits the bill.

.....

A combinations of Model A and B would produce the best result. A mixture of group and solo projects would prepare the student much better than just constantly sticking to one. Model A suggests a short time for working on a project. This would rush the student thereby not producing his best work. problems involving economic and social factors are a good idea now and then to give an idea of what jobs like advertising would entail. Students should be able to choose their own topics occasionally and not many restrictions should be placed on a set project.

.....

It is important to be able to apply facts you have been taught rather than just to know them. Practical work should therefore take up a large portion of time. It is also necessary to be able to carry out independent research and not solely to rely on the skills etc. you have been taught. Being able to work on your own is important so it is necessary to know how to solve problems, make decisions, critical judgements and use learning resources. It is equally as important to be able to work in a group and also to be able to face real life problems of social and cultural factors impinging on people's attitudes towards your work. Model B holds most of these factors but an ideal project would be able to take a little from each of the three models.

.....

I found that Model A gave an adequate description of the kind of project suitable for art and design education because Model A requires the individual study that is important in artistic studies. Also an individual study requires a student to be fully aware of all that he has learnt during the course.

.....

Model A is satisfactory, however the time allocated for the project should not be small.

.....

QUESTIONNAIRE 1:

Question 1

1. How would you define project work to someone who had never encountered it?

Exploitation and discovery of various areas in art, leading to personal development and technical proficiency.

A diversity of work linked by a particular theme (subject, media, etc.) so that it can be viewed as a unity.

Guided personal study of a defined area

A chance to develop over a length of time certain ideas which promote personal involvement in that aspect of art.

Work, generally on one topic and in a series of stages spaced over a longer period of time.

The study of a subject which includes research, learning and then drawing, writing, etc. about what you have found.

Assigned work given by teacher or tutor on which experimental or research work is done.

Analysis of a topic area using many means (drawings, types of description etc.) to provide greater understanding of the field of knowledge for yourself and for the reader.

A follow-through of ideas, developing and experimenting in different areas.

Covering a subject and then being able to learn about a specific area in that subject that interests you, in a practical way.

A collection of pieces of research to form a complete study of a certain topic.

A study of a subject - a study in which one has to research widely to put into a short but concise project.

Finding and researching knowledge into a particular subject, learning from the information collected.

To research into and follow up a chosen subject, examining details and aspects and producing a finished collection of information or material from which you have learned and benefited.

Studies on a particular subject built up to a conclusion:

As a series of research defining a certain or certain subjects in an illustrated and clear manner. Worked individually or as a group, an investigation so as to gain knowledge from your project.

Solving a problem through experimentation in a limited amount of time.

Study in a limited time aimed at resolving problems, and questions raised at the beginning in a systematic fashion.

Research into any subject with a view of expanding one's mind and experience outside the normal curriculum.

A course over a period of time has improved your knowledge and ability concerning that subject.

A variety of work based on a specific area or subject.

An individual approach to a group research theme usually with a given time limit.

A chance to research and take part in a certain topic which interests you.

Learning and researching a topic of interest to broaden one's horizons and outlook on life.

It is the use of past experience and new knowledge found through research to achieve a finished product (written or practical) that in the end will further your experience and knowledge.

Way in which to explore various techniques of media under a given heading set by staff - giving a choice to students to do their own research of a virtually unknown subject.

Accumulating information on a specific topic and discussing it until better understanding of the subject is achieved.

Working on a set topic for a certain period of time.

Project work is working towards a set aim using different styles and ideas.

The study and research of a specific subject as defined by a brief.

The study and exploration of a specific subject over a given space of time.

The aim of a project is achieving an objective by research, experimentation and a final appreciation of the topic.

A short course usually specialised, involving individual research and study to fit a group aim.

An in-depth study of a specific subject from all aspects over a period of time.

A detailed study of a subject or particular areas of a subject.

Project work is an amount of work related to a specific subject or variety of subjects that has to be completed within a certain amount of time i.e. day, weeks, etc.

Work which you find out about and to do something creative or write about it to show what you have learnt and researched from it, or chosen a part which has interested you.

Work carried out over a space of time that builds up to a final completed study, but that can be taken in other directions.

Collecting information and studying various aspects of one overall subject.

Continual work over a period of time to develop knowledge in a specific area and working up to a logical answer to the problem.

A prolonged study of certain subject matter or data - involving an aim and a conclusion.

An individual's own research on a certain subject, not being taught by a teacher though the subjects are set by teachers.

A brief set for you to work on and complete within a set time limit using all the resources you can possibly find.

A personal, yet structured approach of covering a certain area or process of a chosen subject.

A study of a subject researched over a period of time which is informative to others and gives the researcher greater knowledge of the chosen subject.

Usually the subject is chosen from several choices.

Work that is set in which different aspects may be studied and looked at in depth and which hopefully lead to discovery or better understanding.

A study within a pre-stated length of time of a certain aspect of the subject which one is studying generally. Based on a set of ideals and with an aim in mind.

Project work is an attempt to research on a certain area to learn more about the subject - research can include looking at books/films/photos, etc.

A rounded period of work over an extended period of time resulting in a finished piece of work, usually an essay.

A series of exercises designed as a means to an end.

More of a sense of freedom than I had may have been useful but having been a victim of numerous "trial" products often run by people who did not know enough about the project process or had little confidence - I am confused. Process really is the word; instead of immediate short-term aims - controlled by a teacher - i.e. drawing an object, you have freedom to find a root yourself. Yet it depends on how good the teacher is.

Test and illustrations on a chosen research topic. A gathering of information on any subject, on a group basis.

An exploration of a set theme under your own direction. Culminating in a piece of work (perhaps several pieces put together).

A series of researched pieces of work, building up to a final conclusion to bring this research together.

Individual or group research into a variety of topics, studying in closer detail something you choose or have been asked to find out about. These may include illustration and a verbal backing.

Individual or group research that enables you to understand, fully, a particular subject.

A series of pieces of work, concerning one topic or working towards a constant common aim, the work will be set over a period of time.

A piece of work researched, formulated, and presented by individuals, more or less on their own (or in groups) over a length of time. An amount of work produced after or during study on a particular subject (usually fairly prolonged study).

Research into a subject you might be particularly interested in, that will enhance the subject and give you a wider knowledge and broader outlook towards it.

Research into a specific area, possibly to find out about a specific area.

A prolonged period of research which involves the learner entirely during that project which must be drawn from an infinite source, e.g. the student finds out what he wants to study first then narrows it down.

Project work is a collection of ideas and information with the aid of illustrations and essays, on a particular subject.

Research into a specific subject, looking at all aspects of that subject in depth and coming to some conclusion after the research.

Work carried out over a period of time in a specific subject. Preparatory work is done leading to a main piece of work at the end.

Something which interests me - a study of a given subject of my interest.

Looking at a certain object or topic in different ways over a period of time.

Researching and studying a particular topic or theme with the aim of producing a finished piece of work relating to your personal opinions of the study topic.

A task is set, and a given time allowed, with a solution to be successfully found by the end. The solution is found through a process of research, development and trial and error and applying knowledge.

Based on a particular area, usually with a set aim within that area, using the whole area and perhaps beyond for reference.

A project is a personal study of a given subject (of any kind) as truthfully and as accurately as possible. This project may be a written study, a series of drawings/photographs or any such work. It may also be the aim of a 3-Dimensional project to further the students knowledge. Research and work by the student over a period of time, concerning a certain subject working towards a finished piece of work.

The setting of a problem which you, using skills, creativity, hard work, etc, are expected to solve in the most satisfactory manner. Satisfactory to yourself, to the teacher etc. Not an essay question to answer.

QUESTIONNAIRE 1:
Question 1

1. How would you define project work to someone who had never encountered it?

Information worked through from a primary stage to completion, with increased consideration at each stage.

It is an experience in something you may be familiar with but exploited in a different way, or something totally new.

It is an exercise set to test your abilities in a certain field.

An exploration of a theme/subject/object - carried out over a period of time - as opposed to a single piece of work completed in one day.

A personal study of a given subject, which extends ideas and leads to a conclusion. A group project set.

Choosing a subject - researching on it. Once you have a certain knowledge of it, maybe specialising according to your time limit and researching even further. It can include surveys, films or any other visual contact.

Given piece of work (possibly with solution and/or research) to be completed in a set time. Notably with a task involved. Individual or group.

Based on a certain theme, using gathered information from various sources. Can be either an individual or group effort.

Exploration of a problem, experimentation with different media and so on, a series of studies and research to solve this problem.

Being given a task which involves investigation into all areas of the subject before attempting to complete the project which will help give you experience and knowledge in all areas.

An assignment - research and assemblage of information on a certain (perhaps specialised) subject.

A period of set work of a certain type or subject.

A study area for personal and collective ideas within one set theme.

An assignment that someone has to cope with - not necessarily be successful in - but attempt all the same.

An extensive piece of work over a long space of time with an aim. The aim often takes second place to the experiences between the start and finish.

A question or problem or set piece of work you have to answer or deal with over a period of time.

Project work is work done on a certain subject within a set time allowing for personal emphasis or ideas to be experimented with.

A development and study of a theme/experience (either a group or individual study) under certain rules and specifications as a guide, either set by oneself or tutor.

In one particular area of art and design a problem is given to be solved by means of experimentation and criticism group or personal work following and collecting data around a central idea. The line of approach and the way of tackling the problem is not set by the member of staff

A visual or written attempt to describe a chosen subject, individually or in a group, which results in a condensed summary of the research.

A project is working on various aspects of a subject or theme, in depth, to gain a fuller understanding. It usually includes practical work which gives a more concrete understanding of the subject. Through coming to grips with one's subject, hopefully one makes a development in understanding, and transcends one's previous understanding and knowledge. I think the question of development is the essence of project work it takes you beyond a normal, everyday, complacent, taking-for-granted way of looking at things.

Work done by an individual or group, starting from a central theme and then working out from that theme in one's own time and using one's own initiative.

Work which is thoroughly researched and presented in a logical manner on a chosen subject.

The end solution of a project is achieved by experimenting with ideas and processing them to achieve the best results.

A series of small pieces working up to a finished product usually over a period of days.

Exploring a theme in your own way with your own ideas.

A piece of sustained work involving personal enquiry into a subject of (usually) your own choice.

Taking an idea or a theme and developing it.

It is a topic in which one specialises, finds information about, explores either individually or as a group.

Work by one person or a group of people on one subject with a beginning and an end.

Several pieces of work working to a conclusion on one theme.

It is to make up any kind of work, starting by finding the ideas, then to set it up until it becomes a project, the final work is done.

An assignment set on a certain theme, leading to a final presentation of work, experimental for learning.

Project work is work done on a theme or to do with a subject which resolves a question or is merely just a presentation at the end.

Completing or reaching a solution of a piece of work by means of a succession of different stages group or personal research of some topic - examining all aspects of it, and experimenting.

You set out with an objective, collect the necessary data and notes, finishing with a conclusion of what has been studied in depth.

Comprehensive notes on a certain subject which should be studied in depth reaching a conclusion.

It is a set piece of work done over a certain period of time. It is used to develop a theme and you most often end up with a finished piece of work that has been achieved by using the studies you have been working at.

The study and development of personal and collective ideas in various areas of a certain subject.

A piece of work involving background research, experimentation and analysis.

A detailed research on different aspects of a certain idea, person or thing. Gathering all the knowledge about a certain subject and putting it down methodically.

Work in a theme or within a subject that may progress to an ultimate goal or simply to discover more about a certain subject by examining it from certain angles.

When you are given a specific task that can then be carried out on your own initiative and understanding following basis guidelines.

A period of time in which one works on a idea looking at the problem from all angles so as to arrive at a finished piece that is fulfilling the question.

A study on a given subject including written analysis drawings etc. all forming a conclusion, involving investigation in all areas of the subject.

Given guidelines, or a theme, around which you work and develop your own ideas - to end up with usually a finished piece of work - so that you will have gone through a process of learning to achieve it. To expand and explore a chosen subject thoroughly with research.

Being set a piece of work to do on a particular theme, that you might not otherwise choose to do, so as to bring about experimenting and ideas and ultimately learn from it.

Projects in my opinion are the things that you work with your hands more than it needs thinking that means you should be skilled in hand work.

A project is usually a set piece of work to take a certain amount of time. It is very personal concerning one's own ideas and interests yet advice from others is often shown throughout the project - very broad.

Looking and trying to understand a particular subject in all its different aspects, either by yourself or with others, by working on these.

Progressive pieces of work on the same theme, looking at things from various angles, using your own initiative.

RESPONSES TO QUESTIONNAIRE 1 : September 1985

1. Definition of Project Work

How would you define project work to someone who had never encountered it?

Working towards solving a problem through the collection and investigation of material related to a particular subject.

a project is a practical piece of work introduced as a problem and designed to help a student's future work.

Taking an idea or subject, researching it, then producing work in the form of writing or art which relates to that subject.

Work done mostly by yourself on a subject and with guidelines given by teachers, usually to a deadline.

Producing work on a theme and studying around it, researching it to stimulate individual responses to all surroundings.

Work something out in groups.

A piece of work that is set with a certain aim or goal that requires a logical thinking process.

A project is a piece of work done over a length of time. Guidelines are set initially by the tutor and work is completed through private research and study. Project work may be written or take some practical form.

A build-up of ideas and stages over a given period of time that lead to a final piece of work.

An exercise where the objectives are predetermined and are attempted to be met in the previously defined period of time.

The collection of information, progressing in stages for a certain end or as an end result in itself.

You would be expected to research a particular area of work given you and work out your own answers as solution.

Work done over a considerable period involving individual research from various sources or piecing together of separate ideas, so as to come to a

greater understanding of the subject in question, often involving personal judgements.

A piece of work and study looking at a specific subject or area of study. You find out things to do with this area that you did not know before.

Researching an idea or subject and producing informed conclusions on it.

After being given a topic, you must go away and research it and then record the appropriate material.

The development and realisation of an idea.

Work probing into a topic as a way of defining/discovering subject matter. Opportunity for personal interpretation.

Project work is usually the pursuit of a goal within a set period of time. During this time, one develops and expands the original ideas to produce a finished project, a compound hopefully of all that has gone on during that time.

Work - research on one theme (plus possibly related ideas) - resulting in something to look at, read, etc, for learning, proof of knowledge, selective skills.

To build up information, written, reading, drawing and painting on a certain subject.

Series of drawings and essays which follow on from each other leading to an ultimate conclusion.

An on-going accumulative piece of work, exploring a discovering different aspects, reaching a more final and researched conclusion.

Work/study related to a particular given subject, eventually producing a finished article or essay.

Verbally set task to be completed in a set time; the task is subject to one's own interpretation.

A piece of work lasting for more than a short time answering a question in your own way and developing the subject of that question.

An amount of work set by a tutor with a subject; a definite deadline (time). Direction varies as does interpretation.

A project is a set study about or on a certain topic.

Work on a specific subject set by a teacher or lecturer or employer, covering many aspects of, or a particular aspect of the subject, to be handed in by a certain deadline.

An accumulation of work done by yourself over a certain period of time on a subject or number of subjects, answering a given title.

Knowledge learnt through reading and experience, condensed and written down under headings, illustrating a particular theme or subject.

A project is a block of work including research, drawings, essays etc, which has to be completed in a given time.

Work to be completed in a certain amount of time with a finished product. Your research and learn by doing it.

Trying to achieve something by working from many different areas.

To gather facts and opinions through research on a given subject and arrange them into some order, whether it be an essay or a full folder or any other piece of work, practical or theoretical.

A study of a given subject in which you research and investigate all there is to be known about it.

A set piece of work that is given to you to do on your own and/or in a group, using information and research, and including preparatory work as well as final finished work.

You are given a subject matter, you investigate and study every aspect about that subject, finding information from as many different sources as possible and different views.

A piece of work to be done independently, usually at home, within a set period of time, unaided by teachers.

Given a theme, title or idea to describe in a Graphics, Fine Art or 3D way in a certain amount of time.

Project work is a piece of work that is set to get you to broaden your outlook on the subject of Art. Deadlines are set to which you must conform - which is another way of getting you used to Art as a livelihood.

A research of an area not known much about.

An enquiry into an area of study academic or otherwise completed through investigating your own experience in whatever area is being studied, working wither individually or as a group.

Collected information about a given subject.

A project has a starting point, observation, drawings, samples and a finished piece.

A set task in a set period of time involving a detailed and comprehensive study towards a finished product

An in-depth study of as many areas of a given subject as possible which can be connected together.

Researching information on a certain subject, compiling relevant material.

You are told the aims of the project and develop your ideas much on your own or in a group with help from teachers when needed. Comparison of projects/ideas at the end.

A series of accumulated studies which develop during a stated period of time towards an end product with a fixed deadline.

A project is an in-depth research of a specialised topic.

A task set, which has to be explored explained and concluded, in written, pictorial (or both) forms. It acts almost like a broad question requiring a detailed study for an answer.

An assignment set to create over an amount of time and with a certain end in mind.

When a theme is set by a tutor which is carried out through your own research.

A block of study using various means of research as a means of answering and of clarifying the original problem of thought.

A build-up of research of a particular subject in depth and various aspects of it.

An investigation into a certain aspect of life in more depth than normal.

Work done either individually or in a group over a period of time on a specific subject.

Working over a period of time to complete a specified task or achieve a specified aim.

A series of works based on a given subject leading to a final finished goal piece(s). In preparation maybe using research and exercises in reaching conclusion with deadline.

Piece of work which you do by yourself - gathering information from books etc. to accomplish this - research under a given theme.

A piece of work which has been researched independently of school or college, completed in a specific period and marked by a Board or a teacher attached to school or project. Presentation important.'

**PAGE
MISSING**

A following-through of ideas, assessed at the end, continual assessment throughout. On one subject. Final presentation of ideas.

Project work is set by a teacher or a tutor and may take up to a day or three weeks to finish. Often at the end it is marked by the person who set it.

Project work is research into a specific topic or subject which should be presented in an interesting (sometimes with illustrations) but basically informative way.

Projects can be done individually or in groups. It is usually on a specific topic which one has to think a lot about, or research and spend some time on. The end result should be an individual assessment of the subject, or if done by a group it should be the group's compromise (consensus?) of the experience and the things that were learned.

A collection of pieces of work that have been completed within a defined period of time, from a specific brief that has been either allocated or has been derived from, to give a specific completed conclusion.

Research within particular areas of work. Investigating the topic, compiling a series of items over a set length of time and coming to a conclusion using a wide variety of media.

Investigating and researching a subject. Developing facts and ideas on that subject methodically. Reaching some sort of conclusion based on your investigation. Applying your own individual thoughts and feelings in investigating your subject.

A written account of a specific subject that has been thoroughly researched through reading, etc. The subject should cover different points of view with an introduction and conclusion. It should make the reader aware of what has been researched and it should be easily understood.

Theme -- imposed restrictions --- development ---finished item.

Analysing the different areas of a subject and coming to a conclusion. working towards a finished piece.

A visual and mental learning process where the initiative has to come from the person who is doing the project. Involves finding out information, assessing it, analysing it and then presenting the results in a clear, ordered progressive way.

Research on some subject. Through research you get ideas which you develop to make your project complete. Projects involve
research
ideas
discovery of new information
problem-solving over new ideas
learning

Development of ideas on a set problem. Analysis, synthesis, evaluation, rejection of inappropriate ideas, selection of the best solution, further development, final presentation of solution. A detailed analysis eventually, synthesising enough material to arrive at a conclusion for a pre-set problem. You find your information, assess your results, and present your results in a clear and tidy fashion.

Take an outline as a basis for the development of an idea; the development of the ideas brings out more ideas, and we aim to come to a conclusion or an answer. The point of a project is to see and learn how many ways a problem can be tackled.

Finding out about something and developing ideas and angles as you do so. Subject set - time allotted for study and development - final outcome.

Project work is, in my opinion, work done individually or in groups which results from a lot of studying and in the case of art, after a lot of sketches, and research. Therefore at the end you know a lot more about the subject than you did originally.

A piece of work which has to be completed in a specified period of time. The title and some guidelines are given but all the research and the layout is up to you.

A set of objectives to be achieved over an extended period. A project may include the following : personal research, idea development by the student, a logical progression or development of ideas, (like a story). A topic heading - e.g. Typography. A very personal treatment of the subject.

Investigating a theme or idea, over a length of time, on a personal, voluntary basis.

A topic of work researched over a certain period of time.

A long essay accompanied by diagrams or pictures which has been researched and studied.

Learning process though carrying out a given brief on a specific subject.

Undertaking of a pre-set task, usually over a long period of time (days rather than hours). Usually a large task involving a lot of thought and research.

Research of a subject working from initial ideas or concepts through to some form of conclusion. The use of visual and literary material to expand and extend the original ideas, taking them through (hopefully) in an original and personal progression.

A response to a problem or question - a development of ideas - research - a final product which answers the problem or question accurately.

A brief defining the project topic, research, development of ideas, a continuous process undergoes change. Producing work, conclusions, research analysis. A project is less fixed than an essay, more flexible.

An answer to a set or chosen question or topic, answered over a set time, to include research and development of ideas.

A sustained piece of work researched and then resolved over a certain period of time.

Research, analysis and presentation in answer to a specific topic in a particular field of study. Purpose of it being to use your research capabilities combined with your summary skills so that the purpose of the project and the brief is made clear in the presentation.

A project is a continuous learning and enquiring process sustained over a period of time, studying a defined theme or object, and in doing so producing a body of work - not necessarily strict, tutored. Giving insight into practice work, independent research and views of practices outside the educational environment.

Several pieces of work with a linking theme; tasks involving individual thought; some sort of conclusion can be reached (advancement through the work); involves retrospective analysis.

A piece of work done at length. which is researched thoroughly, after having considered all the possibilities.

An amount of work, which is worked upon in a continuous manner, detailed work where research has taken place.

Project work involves a brief or subject being given and the pupil 'answering' this by personal investigation and study. The subject can be studied through books and other sources of information or, in the case of art, through personal ideas or emotions.

(i) Brief - stating purpose of project (ii) Research into subject to lead to (iii) development of ideas - undefined, which can go through change (with time). (iv) Within the project there is space for the development of personal interest. (v) Conclusion of ideas stating what has been learnt, difficulties, unanswered arguments.

Working around a particular subject, building on and developing ideas and producing a complete body of work built from written research and from discussion. The project is less formal than 'the essay' - weeks or even months rather than hours are given for completion; the title of the project is less specific and there is more room for the development of personal ideas.

Studying something for a length of time over which knowledge of that subject is developed gradually through your own attempts to understand it, so at the end a final goal is reached which illustrates the culmination of your discoveries.

An assigned task which is set for you to do and you interpret that assignment in the way you think best. A project is usually set over a long period rather than over a few hours and by the end of it you have usually learnt something.

Something you are assigned to do dealing with a specific subject - concentrating on one or more aspects of it so that you achieve and learn something by the end of it.

Research into a specific subject that may or may not have been assigned to you, which you present in an interesting and informative way.



September 1982

DESCRIPTIONS OF BEST PROJECTS : 1982-83

SESSION I : September

Primary/

Individual: Armour : Followed development of armour from its simple beginnings right through to invention of firearms. Success due to interest involved, availability of information and history involved.

Primary/

Individual: History : An era of history to be studied, introductions to the respective reigns, detailed studies including drawings of various monarchs, styles of fashion at the time and important discoveries/inventions. Success was due to availability of information to draw from, plenty of photographs/paintings to illustrate fashions, etc, and a very enthusiastic, knowledgeable teacher. We were encouraged to decorate project covers and were awarded points according to ability.

Primary/

Individual: Electronics : Making a game machine which tested your reactions against an opponent. The satisfaction was in printing your own circuit (you dipped it in copper which formed on the plate by electrolysis), then interpreting the different signs for the components and linking them -then closing it in a box and the damn thing working!

Primary/

Individual: At home : Animals : Looking through books and encyclopaedias for information and drawings to identify the animal. It made one more aware of nature. Being able to identify the animal for oneself when seen in its outside environment. Being satisfied at the end as one had learnt a lot and the knowledge gained was though general interest and a want to do it for oneself.

Primary/

Individual: 1.Victorian history. It encompassed Victorian society, fashion and domestic history, illustrated through writing, research and art work.
2.Shakespeare : A project about Shakespeare and the society in which he lived, illustrated throughout.

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Primary/

Group : Nature ramble, Box Hill :. Different from standard nature talks.

Primary/
Group :

School excursion to Pennines : Whole class went to Scargill, drawing local early settlements, searching for and sketching fossils, drawing stonewall and all life forms on and around it, climbing Great Whernside looking for wildlife, wildflowers, etc that lived at different heights. Returned, wrote an account of the trip, including maps of the area and diagrams, and then invented a game relevant to the activities we had done. A prize was awarded for the best project and for the best folder cover which we had to design, again with relevance to the holiday

Primary/
Group :

The future/Technology : The project involved the construction of a life-size 'robot'. It was satisfying because as a result of my own organisational abilities as a seven-year-old, the project was an acclaimed success. Fellow pupils did as they were told.

Primary/
Group :

Money and its value : After every piece of work we did for our maths teacher he would award us our mark in terms of a currency, he would give us this artificial money. Obviously in no time at all, people started using it in profitable ways as the Maths teacher had anticipated. People started up banks with interest or became stockbrokers or gamblers. We learnt about the role of these people in real life in a very realistic fashion. I remember I started up an advertising business. The Maths teacher declared the currency worthless within a week and the project ended, but it gave us a surprisingly real impression of business,

Primary/
Group :

Model boats : We were divided into pairs and we had, throughout the class, to make models of boats with historical value. My partner and I made a model of 'The Gypsy Moth'. We made it with cardboard and paper and then painted it as accurately as we could.

Secondary/

Individual: English Language : Each person had to choose a topic, there were no restrictions. Within that topic we had to write a fictional composition; a poem; a factual composition; and conduct an interview with someone connected with the topic. Its success derived from the fact that it gave the opportunity to work on something which you personally were interested in (as opposed to something that the tutor imagines you will be interested in). The project was designed so that the student would be using the elements of the coursework without consciously trying to think how to include them. The success of this project contrasts with one of the faults often found in project work, that of being taught separate elements and then being set a project in

which you have to include those elements, instead of thinking of the project as a whole.

Secondary/

Individual: Art/ My house : Division into separate segments made the drawing more interesting than if it had been a straightforward view of the house. Doing it in fine detail (Rotring pen and ink) produced interesting patterns for foliage and brickwork.

Secondary/

Individual: Art/Graphics : Told what to do, all work done in spare time; its success was that each piece of the project was different and done how you wished.

Secondary/

Individual/

& Group : Geographical Field Work : Field trip to Swanage to study area in all geographical aspects, human, natural, geological, taking seven days in all. Included informed discussion and talks on location, information gained from tutor and by observation, field sketches recording geological strata and scenic panoramas around the coastal area. Work was written up into final book each day. Concluded with personal survey of people encountered in area. Success due to practical involvement and awareness of reality of concepts.

Secondary/

Individual/

& at home: Design of packaging for cosmetics : i.e. sheet designs/artwork; logo/lettering; construction, using paper

Secondary/

Individual/

& at home : Graphic design : To choose and draw a shop front, to re-design the shop front. to design the manager's card, to design letter headings for use by the shop. I produced this almost wholly in my own time without anybody leaning over my every move in drawing, design, painting. I did all of it at home due to illness but normally I'd have liked occasional criticisms, and constructive help and ideas.

Secondary/

Individual/

& at home : Needlework and fashion : For this project I studied one aspect of historical costume - underwear between 1900 and 1970, studying corsetry and foundation garments in great detail. I found it successful because I learnt a great deal about a subject I previously knew little about. I also learnt a lot about a wide variety of things other than undergarments.

Secondary/

Individual: Art/Design of record covers : The colour was very good and the lettering went well. The layout was satisfying.

Secondary/
Individual/

& at home : Animation : A project on the history and methods of film animation. There are many methods of animation therefore there was plenty to write about. I was able to include many illustrated examples and also to attempt my own animated film for the project.

Secondary/

Individual: Design Technology : Project : The working parts and materials used in an air weapon. The success was due to clean and tidy presentation, foreword and conclusion, illustrations and diagrams, chapter division.

Secondary/

Individual: Art/Exploration of eggbox : First major art project, which seemed uninteresting but spent Easter holidays exploring in respect of shapes, textures, architecture, chopping it up into shapes, etc - a complete exploration.

Secondary/

Individual: Print-Making : Problem - to produce a print from 15-20 visible stages. Success - deep exploration of our subject matter and the excitement caused by discovering numerous possibilities previously not thought possible.

Secondary/

Individual: Human juxtapositions : Started with a photo-montage and and took the basic forms and enlarged the composition so that I was working on a six-by-four canvas. My main intention was to use flat colour in a hard-edged painting technique. The colour was mixed so that each area could vibrate against the one next to it. I think the main elements which contributed to its success was that the composition was strange yet it worked. Also the colour code was used to the required effect.

Secondary/

Individual: Imaginary project using the title 'Opposition'. I tried to approach the title from the angle of 'war/violence' and concentrated on depicting a psychological opposition, that of a student demonstration against nuclear arms. From the start, I wished to show no violence in the composition (which was an oil painting, my favourite medium) but to show the opposition by these young people to increased arms investment within the country. The students were young, the adults of tomorrow, by painting them together, arm in arm,, I created a powerful unity, emphasised by the 'frozen in movement' poses as they marched right up to the viewer and seemingly on through the boundaries of the composition.

Many had mouths open, they were laughing, screaming, chanting - passing on the message of peace that they displayed on their placards and banners.

Secondary/

Individual: Game of Life : Showing person growing older all the time, using pastels and bright colours, a larger picture than I would normally do, plenty in it to look at .

Secondary/

Individual: Art/Distorted images, esp. tearing and torn materials : Firstly, the project, although school based, was allowed to continue freely at home and therefore a far greater workload was achieved. Secondly, and for me the most important factor, was that although it was a three-week project, I personally carried on the theme of distortion (especially in torn images) for several months and even now the use of 'torn' subject matter filters through my work.

Secondary/

Individual: Art/Graphics : Told what to do, all work done in spare time; its success was that each piece of the project was different and done how you wished.

Secondary/

Individual: Textiles : I chose to do a project about the history of quilting and patchwork. These crafts were taken up in a time of recession but have now become an art form in their own right. The project traced the developments of the crafts, the types of fabrics used and different decorative finishes. I added a few of my own designs with various fabrics and types of patchwork and made up samples. The project was a success because it involved creative skill as well as research. There were many books on the subject and examples of work in the V & A.

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Secondary/

Group : General Science : We had been studying plants, grasses and other types of vegetation, and then were given a sheet with the names of these plants and were sent out into the school grounds (which had beautiful gardens and therefore plenty of vegetation) to find them. We did this in groups of 4, and had to classify the plants, etc, and then take a sample. We then did experiments on the samples back at the school labs and eventually created a project from this. Of course, the whole project and field studies, experiments, etc, took about five weeks and was very enjoyable.

Secondary/

Group/

& at home: Snowdonia field trip/ Geography ; Everybody assigned some

aspect to write up. Success because of enjoyment on holiday, the project was popular with everyone and there was incentive to do well.

Secondary/

Group : History : Elements that contributed to its success were the ability to absorb much united information from research from varied sources.

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Further Education/

Individual: Machinery design : One was amazed to work individually and become totally involved with ideas and formation. It was satisfying to see ideas develop and to be given the opportunity of handling machinery as one wished - either subjectively or objectively. The time even spanned two weeks - ample time to work on several ideas not just one, which eventually contributed to the finished design.

Further Education/

Individual: 1. Office Machines : Collected information, coloured photos and investigated the advantages of the machines, their use, their suitability.

2. Embroidery : Worked as a member of a team, co-operating triumphantly, studied information taken from the library and gathered photographs and discussed the reasons for our choice with the whole group

Further Education/

Individual: Painting landscapes : Painting landscapes at different times of day in different lights. I enjoyed it because I could do exactly what I wanted on my own.

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Further Education/

Group : Art/Scenery : Everyone chose what to do from a list of scenes, then went away and designed the scenery from details given. When everyone had finished, we chose a weekend when we all came in to do the painting. The sixth form were in charge and helped the lower school. We saw the finished product at dress rehearsal and were able to make alterations. The success was due to being allowed to do what you wanted without too many restrictions; also it was the first time we had done this type of thing and everyone worked well as a group. We were able to see the end result alongside the costumes/lighting/makeup, etc.

Further Education/

Group/ & at

field centre: Geography/streams: The project was based in Devon, around many areas of the coast and countryside.

Everyone enjoyed visiting these new and exiting places. There were aims, methods and results, but we largely organised ourselves. The project was so successful because of the element of surprise, nothing was monotonous and spent too long over but above all there was no feeling of being forced to do a 'school project' and the atmosphere most of the time was fairly easy.

PRIVATE PROJECTS DONE AT HOME

Individual/

at home : Painting : The project which I have chosen as most satisfying was the first oil painting I ever attempted. I was four months into an 'A' level art course and up until then we had only worked in powder colours which I found to be a frustrating medium to work in due to the limited colours available. I chose a photograph of a train with plenty of colours. With not too much effort I produced a painting of the locomotive, the colours of which had been mixed successfully. The satisfying aspect of this project was how the use of a previously unexplored medium allowed a substantial jump in the standard of my painting. This was, in part, due to the versatility of oils when mixed. Using the oils to describe the form helped me to produce a convincing interpretation of a steam loco. The satisfaction gained from this project stimulated me to explore a field of art which I might otherwise have excluded from my course.

Individual/

at home : Art/Textiles : Skirt - made from netting, with leaves (was made in autumn) sewn into it. I was primarily interested in the texture of the skirt. My aim was to make a costume from network objects. It not only looked good but it was very self-satisfying.

There were two responses which did not relate directly to the questions asked and make general rather than specific points. They are worth including for their interest.

There hasn't been a project which could be termed such. This is because they were seldom finished to my satisfaction. This was due to a lack of initial impetus, caused by lack of interest, resulting in a lack of good quality work

I'm afraid that any projects undertaken at school were done so long ago that I simply cannot remember much about them. Maybe this is a sign that they were not entirely successful - I'm not sure. So far as recent work in concerned, I have tried to avoid working in relation to a fixed 'project' and I think I would find it very difficult and artificial to try. This is equally true of work undertaken on my own or with other people. All my work inter-relates with past and future work

- 'Best project' : 1982-

and any influences and reference points invariably run the length and breadth of it, whether I consciously intend them to or not. In this context the notion of project work is misleading.

QUESTIONNAIRE 1:

Question 5

5. Out of all the projects that you have experienced, choose the one that stands out in your mind as the best, the most successful, the most personally satisfying.

Write a thumbnail sketch of that project and try to pinpoint those elements which contributed to its success.

Primary/
Individual

Home Economics. A home economics project which concerned dairy products, their manufacture, marketing, sales and uses, etc. Successful because plenty of information was obtainable from various firms, samples sent encouraging students to find their own samples etc. A relatively boring subject was made exciting and extensive.

Primary/
Individual

Biology. A project on the sea, embodying all or many aspects of its uses, and biology of the sea.

1. It was clearly set under different headings - the biology, fish fauna and other organisms. Pollution, oil over-fishing - industry fishing, oil industry, etc. Geography - oceans, seas, depths of water, warmth, distribution of animal and plant life, etc.
2. It was an easily researched subject.
3. Wide and diverse angles of study were offered

Primary/
Individual

I choose the topic myself. I used several different sources of reference. I attacked the topic from several angles. I ended up learning a lot.

Primary/
Individual

The only project I can remember was at junior school, drawing birds, writing, maps etc. which I enjoyed at the time because of being able to choose to work on my own.

Primary/
Individual

English Literature and Language. Literature-based project which required the student to compose a series of essays, poems, etc on their own for a long period of time. Thereby developing the student's own attributes without direct or persuasive influence from the instructor/teacher.

Primary/
Group

Science and technology. In primary school as a class we had to design a hot air balloon (passenger-less), construct it and get it off the ground. The personal involvement in creating our balloon and also being able to see the visible evidence of our project completed.

- Primary/
Group Studying codes - making and breaking them.
Working in a group, working on something separate
from the rest of the class.
- Primary/
Group English/history. Project of life and work of
Shakespeare. Links between the two made more
interesting. Maps and drawing involved, interest
of student, enthusiasm of teacher, relaxed
atmosphere.
- Primary/
Group History. A history project involving a group
effort to produce diagrams and charts to
illustrate life in the time of Henry VIII.
Successful because involved a wide range of
different ideas and approaches.
- Primary/
Group Art. Cut out figures were contributed to a
large painted landscape (primary school level)
Room was left for a large degree of personal
expression. The subject involved the
individual's own view of what was necessary.
- Primary/
Group Local history. A project on local history - it
involved a group tour of Kingston and individual
research into the history of your street and your
house.
- Primary/
Group Two really.
1. Writing, directing, acting a play as part of a
group at primary school. It was on our own
initiative - and if my teacher had any sense he
would have capitalised on our enthusiasm by
pursuing it in current lessons in, say, drama,
writing etc.
2. A chemistry project - refining rock salt -
given certain equipment - two of us, using
initiative, imagination - good fun. Independence
of a sort - responsibility.
-
- Secondary/
Individual: Art. Asked to do a study of opening and closure
or enclosure. Using shapes and colour. I found
the work very exciting and enlightening on
Rothko's work.
- Secondary/
Individual: Art (Cubism). From beginning with a very sparse
knowledge of the particular subject, to a deep
understanding and awareness. As I worked by
myself, I felt a great satisfaction of having
achieved a high standard of self-discipline and
therefore self-satisfaction. Also an interest in
the subject gave me more motivation.
- Secondary/
Individual: A project completed alone about a London
production of Noel Coward's "Design for Living".
It was successful because basically I worked
hard! I did not concentrate upon one aspect of
the production but upon both the physical
practicalities (set, lighting,) and acting. I

obtained all my information from many different sources, interviews, my personal opinion of the production, and also historical sources (old newspaper reports on old productions) and current reports/production literature. Personal involvement and unbiased dedication. An interest in the subject.

Secondary/
Individual:

Art and design. An individual project; it was set during my 'A' level art course. It was from a past exam paper and it was a graphics problem. We had never been taught graphics. We had to design a record box to contain three records and then construct it. Its success was greater because of the fact that we had to learn for ourselves everything to do with the project and tackle it purely independently. Actually this might not have been the best - it is the only one I can think of at the moment.

Secondary/
Individual:

English Literature. Literature project on William Blake "Songs of Innocence", "Songs of Experience", individual interest.

Secondary/
Individual:

Drama. Drama project on the makings of a play. Personal. Creative. Relevant. Visual and written. Varied. Imaginative.

Secondary/
Individual:

Art. It was a German project. I am German. About artists under Hitler.

Secondary/
Individual:

Biology project. All about otters, where they live, what they eat, etc. Visited otter sanctuaries. Not the best, one of the best.

Secondary/
Individual:

History of Art. 'A' level dissertation for History of Art on the Victoria and Albert Museum. For the brief, I asked the question "Is the V & A a Victorian antique or an evolving living museum?" The writing involved researching and answering this question which gave the project a definite structure.

Secondary/
Individual:

Art and design. The project was to make a model of a building to 1/20 th scale. We could use any material and we were asked to make drawings to help various structures of complicated detail. the restrictions and accuracy of the model produced gave me a sense of discipline.

Secondary/
Individual:

History. Project on the history of Petersham church.

1. I like architecture.
2. I enjoyed the drawing and design involved.
3. Good class teacher, made one feel very positive about it.

Secondary/
Individual:

Textiles and design. A textiles project - make a study of an aspect of a fruit or vegetable and translate it into a textile design (using any method, e.g. printing, applique, machine sewing, quilting, etc.) It was successful due to its fairly loose instruction and the fact that I produced something I was pleased with and enjoyed doing.

Secondary/
Individual:

Arts (drama). Successful elements: care with presentation, interest in subject, satisfaction with long-term project i.e., from conception to completion. Working without too much oversight.

Secondary/
Individual:

Geography. Project set in geography 'A' level course. We were told to choose one country of the developed and developing world and had to find out ourselves firstly the very basic geography of the country and then a far more in-depth study. Being able to choose which countries we studied benefited the project..... for we were able to select a country in which we were interested.

Secondary/
Individual:

History. History project on Elizabeth I. I became very involved in the project and managed to write and find out a great deal. The involvement meant that the project became something which I really enjoyed doing.

Secondary/
Individual:

Art. - definite aim. - good instruction as to the possible means of achieving it. - good facilities available.

Secondary/
Individual:

Art. We were given a list of project titles by the tutor including both Fine Art, and Design options, and were given a set period of time to complete the project - two weeks. We had three one and a half hour periods a week to complete it, working individually with help from the tutor. Only successful because the options were wide enough to include an area in which I was genuinely interested.

Secondary/
Individual:

History. Costume project; projects at school were almost always history projects, and being interested in period costume, I did them on a few occasions. I would research from costume books and history books mainly, but found the illustration of project more enjoyable. The reason for the success is probably that we were usually not given a specific subject to do.

Secondary/
Individual:

French - holiday work. Project on Paris. About the age of twelve. Object - to learn about and visit cultural aspects - fairly obvious - of the city. Success - the images remain due to having to simultaneously write about the visit.

Secondary/
Individual:

Art. School magazine cover - personally chosen and important therefore sense of pride in work. Enjoy art and design - ideas came easily and successfully. Pride in eventually seeing work professionally produced.

Secondary/
Individual:

English. A project on fashion in the 60's. It was successful because I was interested in fashion and so enjoyed researching and putting it together.

Secondary/
Individual:

Design. Set one brief and solved that problem by sticking closely to the design system lines i.e. doing research of existing products in line chosen e.g. were they successful, initial ideas, development of initial ideas, choice of final product design and reasons why, production methods and actual realised product at scale maquette. It was successful and satisfying because had own choice of brief and being able to follow through development I actually saw it being used.

Secondary/
Individual:

Astronomy 'O' level.
Elements:-
Presentation.
Accuracy (of work).
Amount of work (showing interest).
Project involved construction of 3 D model.
Photography of stars and planets.
Movement of a planet relative to stars and sun.

Secondary/
Individual:

Art. To study local architecture in the form of a 3 D model of a commercial building. Success due to personal reasons - enjoyment of method of carrying it out.

Secondary/
Individual:

Ecology. During the zoology course we were set a project to do with the influences on a particular area of land over a period of time; the number of birds, fish, crustacea and others from one year to the next. The object was to suggest a logical reason for the increase or decrease in the numbers.

Secondary/
Individual:

Art and Design. A project on Kathe Kollwitz for history of design. It was done in a short space of time - three weeks and was very pressurised. We were given a term to do it in. I took, and developed photos for it and mounted them. Several books were used and the subject was interesting.

- Secondary/
Individual: Art. If you can call work towards an examination (in this case CSE art) a project, then this was the most interesting. It is important to be interested in what you are doing. The use of mixed media and a large amount of photographic information helped to make it work.
- Secondary/
Individual: Music. Edward Elgar - life and works. The study of his life and his work in the context in which he lived. Successful due to research of the social and economic condition in which he worked.
- Secondary/
Individual: Music. Music project on Chopin - his life and works. Divided into sections, illustrated. Using lots of information from various books - straightforward.
- Secondary/
Individual: Design. During a woodwork course, we had to design wooden bowls and make them. It was personally satisfying designing the shape and structure and eventually actually making it.
- Secondary/
Individual: Advertising. Poster advertising in the 1920's and 1930's. Successful because became involved, worked on own and found recent information at contemporary galleries and information in articles found in 1930's magazines therefore rewarding and a fascinating and relevant subject area.
- Secondary/
Individual: History. Project into a given period that had been chosen by a majority in the group. It made the class do their own research into all sections of architecture, arts, science, in this period. it made the period come alive and because I had done the research I remembered what I had covered very well.
- Secondary/
Individual: Design. 'A' level major project to make and design a new type of portable overhead projector. We were thrown in at the deep end and it was up to us to set our own design brief and to make contacts, find materials and plan production methods to complete a finished working model. Thus we had to follow the whole design system from beginning to end.
- Secondary/
Individual: Art. Given a list of subject by art teacher as guidance, but allowed to make our own choice. Depict chosen subject in a second way.
- Secondary/
Individual: Art (graphics). Through photographic research, one had to develop a basic picture suitable for a children's book on animals.

- Secondary/
Individual: Biology. Biology field course project - it was a study of a whole ecological environment, outlining dependency of different organisms on each other to maintain a balanced environment.
- Secondary/
Individual: History. Conditions which caused building of the Spanish Armada, then its destruction. Enjoyed subject, was fascinated by history. Plenty of information available.
- Secondary/
Individual: History of Art. Dada art or anti-art. A look at the sudden change in art and whether it was valid as an art form, most interesting and creative.
- Secondary/
Individual: History study. The Berlin air lift. It was an assignment conveying the intensity of the Berlin air lift from 1947 to 1948. Not only did it report the physical strife but also the intensity of the political situation between Russian and the Allies resulting in bad relations between east and west. Success was subject to the wide expansion and detailed references and illustrations.
- Secondary/
Individual: Design and technology 'A' level project lasting one year! Project marked at end of second year of course a part of exam. Included research, problem solving materials, tools, paper work and final finished product very interesting to me personally.
- Secondary/
Individual: Natural fibres and natural dyes, together with a fashion design. 'A' level project over a year time limit. Not only theory but practical design used and experiments with not only natural but man-made dyes in both the fashion designs and in the theory side of the project. Fabrics were dyed and then made up in the fashion design. Research work for the natural dyes from the dark ages to the twentieth century. Final project was a thesis with practical work.
- Secondary/
Individual: English. An English project. Free to choose our own subject, working individually, not as a test but as an approach to expression. No limitation.
- Secondary/
Individual: Graphics.
An aim
research
Objective criticism
Practical work
Criticism
Conclusion.

Secondary/
Individual:

Graphic design - art. To design packaging for a new product and to define its appeal - i.e. market research. Reasons for success - interest in project subject, enthusiastic class, enthusiastic teacher.

Secondary/
Individual:

Art. Task to design the cover for the school play. Successful because of the use of designs relevant to the time and setting of the play. was left open to me with no restrictions and I was left on my own to design it.

Secondary/
Individual/
Group:

Physical and human geography. Geography project (field trip). Successful because worked as a team. Understood various sections of the project thoroughly. Studied under relaxed atmosphere - not forced to work. Back-up reading and research carried out individually.

Secondary/
Individual/
Group:

Mountaineering/physical geography. (A) Project on individual choice - mountaineering - it was successful because it was a hobby and it was used as a verbal lecture with props as illustrations. (B) Geography field trip - set by the teacher but groups were able to work out their own method of solving problems set and major percentage of the work was practically-orientated. Both were successful because I discovered more about each topic.

Secondary/
Group:

Geography. London life. A group of 'O' level students (geography) had to study the characteristics of a bustling city - its people, its history, its status as a capital city. This was over one year and in the end we produced a comprehensive book (250 pages) illustrated, along with a film of half an hour.

Secondary/
Group:

Drama/English. This was a drama project in which the group had to collectively act in a play which some members of the group wrote, directed, and acted in. I felt it to be personally satisfying as I had contributed largely to the writing of the play, and had played an interesting character. The play was successful in that it had received praise, and we enjoyed working on the project.

Secondary/
Group:

Geography. Projects whereby I have done surveys on my local environment - e.g. projects on why and how people use Richmond Park, how far people are prepared to commute to their jobs etc.

Secondary/
Group: Textiles. The project I personally enjoyed and was most satisfied with was a project set at the end of a textiles course. It gave the student six weeks in which to create a piece of work based on six varied titles. The one I choose was "texture". The only restrictions were that the time of six weeks was not to be exceeded and that the student could only produce work from a method which she had experienced on the course- i.e. 3D, soft sculpture, etc.

Secondary/
Group: Geography. A study of the local environment, the people in it, leisure, landscape, facilities etc.

Secondary/
Group: Art and design. Working as a group making practical pottery at the same level. Lots of help and guidance from teacher and able to discuss problems freely with each other.

Further
Education/
Individual: Art. History of art project - studying various individual artists and different time periods ranging from stone age man to modern day we were able to write a project including information and illustration that interested you.

Further
Education/
Individual: Geology. The project was set by the geology department at KCFE. It included a ten day field trip to Dartmoor and Bristol and consisted of researching the local rock and basic geography of the country. the end product was two large folders of photographs, written descriptions and drawings. Its success pointed towards a clean, clear write-up with good sketches and informative photographs.

Individual: Furniture. Making myself a bed. The situation, need, and brief were all created by me. The total freedom of structure and shape which were created by my having the means to take the idea from start to finish and my being my own client.

Individual: Art. Writing about jewellery project. Found it interesting and learnt from wanting to learn about the subject.

Comment: No project stands out in mind.

Comment: My memories are vague of these projects. I do not feel I can comment. They were undertaken many years ago at an early age.

QUESTIONNAIRE 1:
Question 5

5. Out of all the projects that you have experienced, choose the one that stands out in your mind as the best, the most successful, the most personally satisfying.

Write a thumbnail sketch of that project and try to pinpoint those elements which contributed to its success.

Primary/
Individual: The most satisfying project I ever did was a booklet on whales that I did at primary school. It was my own personal choice of subject matter and I did a great deal of drawing for it. At the end I had something I could keep and look back on.

Primary/
Individual: Geography. [I] can't remember much - information [was] given to us from travel agents- very useful at primary level. Practical work as well as research made it much more enjoyable - cooking a Moroccan meal including a sheeps' eyeballs.

Primary/
Individual: Loch Ness monster. A paper on the Loch Ness monster. [This was] a project on the Loch Ness monster that I did in the primary stage. Enjoyed research and in particular the illustrations that I did. It was also well laid out with index etc. Also had unusual subject matter.

Primary/
Individual: Needlework. When I was about ten in school I did a project on interior decoration which involved the use of magazine pictures, and exploring shops to find the approximate the costs of the materials we would like to decorate our houses with. We also had to find out prices of furniture and commodities such as cutlery and crockery.

Secondary/
Individual: Art. The project I enjoyed most was.....a project about the experience of a place (Brighton). The whole trip was organised and then we were left to our own devices. I enjoyed working with friends. Also it was the perfect place to be on a summer's day.

Secondary/
Individual: History. Pre O level project on houses. The history of dwellings. Could do what we wanted to, visited lots of old houses and stately home during school holiday. Wrote descriptions and made drawings, did a history of windows, chimneys, doors. Lots of drawings and photographs.

Secondary/
Individual: Biology. Project about man and the effects of the environment. Involved looking at pollution etc. Enjoyed doing the diagrams and cover of project.

- Secondary/
Individual: Textiles. Title of project was 'mechanisms'. I did zips. Drawing them, then doing batik, repeat patterns and wadded embroidery, using the zip idea. I enjoyed it because I was able to do what I wanted and I could experiment without wondering what my teacher would say.
- Secondary/
Individual: Biology. My actual favourite and most successful project was a biology project examining the life and history of a fresh water pond. it was a challenge to create an in-depth analysis of something I had never studied. the diagrams were difficult but interesting to cope with and quite successful. Prefer working by myself, prefer the sole responsibility.
- Secondary/
Individual: Art. Taking a subject or scene (fantasy scene) and doing it in different media. In this project you have a lot of scope for using your imagination. You can choose your best media. You can choose an object you are interested in. Projects with lots of scope are usually very interesting.
- Secondary/
Individual: General Studies. Project on J.M. Barrie. Concentrated on middle life and used tragic involvement with a disintegrating but gifted family. The format was fairly straightforward dealing with the subject chronologically and reaching not a conclusion but an end. I became involved in it because the subject had a tremendous hold over me and I strongly wished to communicate the personal magnetism.
- Secondary/
Individual: History of Art. I suppose it was a good project because I choose the subject so I was especially interested in it, working in the library I had the material necessary, and simply because history of art interests me.
- Secondary/
Individual: Art. The project I found successful was one that was associated with a day trip where students were asked to collect information for a project of their own choice I enjoyed the day, the place, I was enthusiastic and produced a project that was original and well received.
- Secondary/
Individual: Art. One project that proved to be satisfying and successful was a 3-dimensional house project. I had to take my house and reduce it to a twentieth of its size to produce a model. At first I was very tentative about the whole thing-especially because it was set for the summer holiday. As soon as I had started, it proved to be fun and I became very involved-I spent three months on the project and the final result was very satisfying.
- Secondary/
Individual: African culture. Interesting, involving, exciting. It allowed for own imagination, stimulating, enough information given by teacher for understanding briefly a topic but not too much so the pleasure of

finding out, researching, was still there. In the end rewarding.

Secondary/
Individual:

Art. We were given an art project entitled 'movement' which personally was very successful due to initial inspiration. A good start always gives me confidence with projects and encourages me to continue eagerly. It was also largely due to the teacher. She was the only one I could communicate with and it was the only project we did with her.

Secondary/
Individual:

Textiles. Taking a drawing from surroundings and changing its design, simplifying it, and in the end making it into a repeat pattern. Experimenting with different colour schemes. Screen print - printing it up and trying to see what it would be used for. Satisfying because able to follow it through and have an end product.

Secondary/
Individual:

Geography. Fuel project for which I had to write lots of letters and make lots of telephone calls to National Fuel Boards. I presented it on four large sheets of card. I summarised all the data and added drawing and pictures to make it look interesting. I found it quite interesting and got an A grade for it as part of the CSE mark.

Secondary/
Individual:

Human Geography. Fuel and resources. Examining all types of the above available today, their recent trends and examining their potential for the future. I found this boring because I was pushed for time and unable to explore most things in depth, except for trends in the oil refining industry affecting market location and the price of oil which I investigated vigorously and found interesting.

Secondary/
Individual:

History of Art. The project I consider the most successful was my dissertation for my history of art A level. It was fairly personal and although the subject I chose was very broad, I was able to uncover facts and facets which were not immediately obvious. Also I feel that the presentation is just as important. A project has to look interesting and catch people's attention, inspiring them to study it in great detail. Originality and your own personal feelings are important in that if one is uninspired by one's subject for a project it will often come across as boring. For a thesis it is essential to have a good introduction and conclusion.

Secondary/
Individual:

Art-ceramics. It was a ceramics project, the title was time. I did somebody waiting-sitting on a suitcase, and I developed the idea first by sketches and then did some figures in clay. I felt very

inspired by this project and I was pleased with the finished piece of work and the work leading up to it.

Secondary/
Individual:

Art higher. Pencil drawings and water colours of various plants and then developed into architecture.
1. Personal achievement and satisfaction.
2. Group discussions
3. Acknowledgement by others.

Secondary/
Individual:

Geography. New Zealand—its resources, products, wildlife and flora, etc. Reference works, people's personal views on the subject. Use of art, sketches etc. in it. the fact that we attempted it as a group made it more interesting. We went out to collect information—from libraries, from institutes. My grade was high. There was a sense of competitiveness.

Secondary/
Individual:

Photography. C.N.D. poster involving montage of explosion shots of two photographs. One of girl protecting herself from flash; two, second girl holding dead first girl. Extensive experimenting in montage work and lighting involved to get required effect. Third image within C.N.D. emblem.

Secondary/
Individual:

History of Art. Project on Rene Magritte. Very enjoyable as it was a change (we were studying the Italian Renaissance). Used lots of books and quotes. Photocopied paintings and tinted the black and white copies with coloured pencils. Wrote biographical information. Enjoyed the research into his style and what he wanted to show by it. Enjoyed the theories of surrealism. Generally enjoyed myself.

Secondary/
Individual:

Geography. My project on Brazil was satisfying because its duration was of a long period, which had been extended and therefore research could be in depth and therefore interesting. Mine had different sub titles and each was treated as important, almost a project in itself. it was illustrated with magazine cuttings and drawings. it was satisfying because it was presented well and I felt it was informative.

Secondary/
Individual:

O level English project. Art as therapy. Art with the mentally handicapped. [This was] successful for me because I came into contact with the mentally handicapped for a prolonged time which I had not done before it was also one of the first things I did within my education that was not rooted in a teachers instructions but in my own investigation.

Secondary/
Individual:

Artists' effect on society. Subject: French adult comic strips. Bought the comics for a few months, read them, categorised the subjects that came up - i.e. violence, sex, male dominance, and related them to what was happening in the society of today. Had to have a background. the whole thing was interesting, lively, due to reading comic strips. Was successful because it didn't get out of hand. Fascinating

subject matter. End result was interesting to read and taught something to anyone who read it.

Secondary/
Individual:

Art/Theatre. Design of posters/brochures for college play "The Crucible". Involved working on 2-tone screenprint design. very happy with design, satisfying to see posters all over college and printed on front of programmes. Given full artistic rights, no interference from teachers, etc.

Secondary/
Individual:

English. Modern poetry. English project related to Sylvia Plath's poetry. We had to write our own, using her symbolism and ideas as if we were examining her thoughts. Enjoyable because it was fun and interesting and using a different view point.

Secondary/
Individual:

Sociology. What I enjoyed most about this project was that it was totally personal and although I hate discussion and avoid it whenever possible, my enthusiasm developed through discussion with the group/tutor and myself and the tutor. I felt confident in myself and my project. The project began as a sociological project to an objective sculptural interpretation of our discovery-and personal opinion on the subject topic.

Secondary/
Individual:

Art. In particular, I found an art project to be most successful when we had several weeks to analyse any painting of our choice in different ways and then interpret it in our own manner. This was followed up with a thesis based on the artist. I found this project interesting in many respects as it gave me not only an insight into the artists private life, but also into his style of painting.

Secondary/
Individual:

Theatre design/3-D. We were told by staff that we could do whatever we chose for half a term in craft lessons i.e. we set our own problems/projects. I aimed to make a theatrical mask that completely changed the character of the wearer. Successful because I chose my own problem. I was free to choose my own medium. I did a lot of work outside school hours. I was pleased with the final product and was complimented by others.

Secondary/
Individual:

Art/Technical Studies. The project was to design a piece of sculpture base on an oil refinery. It started by me photographing one, then coming back to the studio and working from the pictures. The preliminary work went on for about two weeks in a sort of spare time atmosphere. The enjoyable bit came after that. I was totally free to take it in any direction and was not channelled by my tutor. he helped me when I asked or pointed me in a new direction if I had come to a dead end. There was no time limit on the project therefore when ideas didn't flow, one could leave it rather than ruin it. In the

end, the piece I produced I was very pleased with and my tutor too and I enjoyed constructing it.

Secondary/
Individual:

Photography. Aim: to take a series of photographs with the title - environment. This was totally individual i.e. no tutorial help. I had to inspire and develop my own ideas. At first I had to change my initial idea and start again. I was worried about this at first but this made me work harder and more quickly and made me consider my environment with greater depth. This may have been more successful because I was left on my own to do this project. This made me work harder and think more which although hard work, gave me greater personal satisfaction in the finished product as I had put more of myself into it.

Secondary/
Individual:

Geography. Project: investigating the landscape and its evolution. Practical field work - going out and measuring, drawing and noting down the types of vegetation, types of land forms, etc. List given by school indicating what we had to look for. Although we worked on our own, there were friends nearby. The illustration to the project was important as were labelled diagrams because these conveyed the results visually and effectively. The variety of information and the ways of conveying this gave variety which was important instead of lengthy essays, the use of charts, maps, graphs etc. was important. I preferred to work on my own as I could work when I wanted to and wasn't hampered by other people.

Secondary/
Individual:

Art. We were told to go and buy an object for under 20p, make sketches and detailed drawings and a model of it in waste objects on a large scale. We then had to adapt this information into a project of our own design in the area of art which excited us most e.g. graphics textiles, fine art, etc. I enjoyed this because it was varied and gave us freedom within the set task.

Secondary/
Individual:

Art. Local houses were being rebuilt using original materials in the same style. We were told to produce a picture from the building site-it was left to us how we went about it. We took photographs to record progress of the houses-it was interesting as each week there was something new to draw and it was rewarding to see the houses near completion. We also met lots of local people who were (or seemed to be) very intrigued by our work. It was a subject which we discovered was not as tedious as we first thought it would be.

Secondary/
Individual:

History of Art. An essay on a subject which I had always wanted to explore more-the topic was narrow enough to get to the bottom of it-but it still contained evidence which was explorable in other directions and therefore very exciting-this was a

particular topic which had not been written much about and therefore I had to do all the research for myself and I had to draw all my own conclusions from that.

Secondary/
Group:

Geography/weather. Successful due to my interest in the weather. I spent a long time on the drawings on clouds and recording equipment together with the writing. I also liked the teacher and enjoyed the practical investigation.

Secondary/
Group:

Art. Etching project. You had to take a photograph with strong tones and make an etching from it. I learnt a lot about technique and the finished work was good.

Secondary/
Group:

Art. Going through a book of tapestry and choosing bits of several tapestries and then putting them all together on a small scale-using paint. The art group worked together and re-created a huge image of a tapestry which was hung at the head of the the headmistress of my school at the front of the great hall. Unusual-inspiring-working as a group-freedom of use of paint-space.

Secondary/
Group:

Traffic Movement, including A) type B) direction

1. Time given - two weeks
2. Group discussion.
3. Theory of project put into practice.
4. Theory proved correct!
5. Outdoor and indoor study
6. Personal areas

Secondary/
Group:

Art. Scenery for school play-everyone put forward ideas and we all decided on the best and then made the scenery. Sometimes we could miss out on lessons to paint the stage and a lot of the time we had no supervision and when left on our own we still managed O.K. and got it all done. We drank coffee and wore old clothes and got absolutely covered in paint! Great fun painting the stage, everyone got on well. All friends working together.

Secondary/
Group:

Art. Good idea, communication, co-operation, are the main elements of a good project. The project was to do a painting 5m x 4m of Lech Walesa, using chalk, charcoal and powder paint. The main success was that it looked like him and each person's piece of work was in proportion.

Secondary/
Group:

Art. A painting of three 4ft. x 8ft. panels to decorate the dining hall of a secondary school. What contributed to the success was working with a good friend using contrasting styles, and the thought of

the whole school being obliged to look at our work. The size of the project also contributed.

Secondary/
Group:

Art. Mural to decorate school dinner hall with a friend it was an enlarged cartoon strip on three by 8x4 wooden panels. Support from teachers, good materials supply, good partner relationship. Ego boosting.

Secondary/
Group:

History. I was thirteen. A history project at school. I and three friends decided to make an execution while others made stained glass cardboard boxes and pipe cleaner Thomas Mores. So we borrowed a shop dummy from Debenhams, dressed him in black, made an axe and a papier mache head and on the day of open day covered everything in tomato ketchup. It was great and stood out and we got into trouble but the crowds loved it.

Individual:

Painting. The best project was studying the Cubist exhibition and then doing a series of drawing, paintings and collage in the Cubist way of a typical Cubist still life. It involved an understanding of the history and aesthetical development of Cubism, the whys and wherefores. After the first terror and feeling I couldn't possible do it, it began to fall into place. I think that often something successful is preceded by that feeling of terror and this concentrates the mind and makes one look at it more urgently and more freshly. But I think an absorbing interest in what you are doing is also very, very important. You have to care enough about it to put in the emotion and mental (and physical) energy, and to concentrate so that you start seeing threads following things through, getting that feeling of great excitement when the penny drops, making the necessary leaps in imagination without which you never really learn there must be excitement and commitment.

Individual:

My best project was my move to London (from Holland), as I was aware that all the details involving this move (with three children aged 9, 11,12) had to be thoroughly checked out before a decision could be made; language, schools, recreation, family surroundings, links with home country. It was successful because of experience gained and previous moves.

Individual:

My head turning into a shakers cocktail in 3-D. Very meaningful.

RESPONSES TO QUESTIONNAIRE 1 : September '85 : BEST PROJECT

Primary/

Individual: I could choose the topic for a scrapbook type project, not having to be all written but allowing the use of drawings and cutting out of photos, all being about a subject I was very interested in - football and the World Cup.

Primary/

Individual: It was about my home town. Satisfying because I learnt things I had not known before and could also go out and see things differently. I also enjoyed putting the project together (layout). Successful because I very much enjoyed doing it.

Primary/

Individual: Holland : Dutch culture. Enjoyable. I had lived there. We were allowed to choose any country we wanted to study. Did the project alone.

Primary/

Individual: America. Project on the USA (at about 11 years of age). It was a new idea, sense of competition, used pictures, lots of information available. I was able to choose the subject.

Middle school/

Individual: A series of projects done in my second year of Middle School (10-11). The projects were small. We were given a title and had to produce a folder of written, illustrated work. These pieces of work were totally individual and therefore very satisfying for children of this age to have produced a folder all by themselves.

Primary/

Group:

The project that stands out in my mind as being the best is a project on cocoa. It was successful partly because I was interested in learning and researching about cocoa, and also I found quite a lot of information about the subject.

Secondary/

Individual: O level pottery project of slip-cast moulding where work was varied (different media used at different stages). It didn't have strict deadlines and was aided to begin with, but towards the end was mostly done alone. Almost no written work.

Secondary/

Individual: Art: Etching. The project was an A level etching project for the art paper, where at least two etchings had to be designed and executed. The work culminated in a folder which traced all the stages from conception to finished product. Successful

because it was in an area I was interested in, because it incorporated many aspects of art, from design to basic technical skills in etching.

Secondary/

Individual: Art. The project was to collect information for a final piece of work on Hampton Court Palace and Gardens. The project was a good subject, plenty of material to choose from, a talk beforehand gave a clue to what was needed. Started off with a set brief but were allowed to do what you wanted with it.

Secondary/

Individual: Screen Printing. A screen print of bathroom utensils around a sink. It was simple, done quickly and positively, resulting in the required and aforementioned effect, something so rare with me. But generally I like to have a lot of time to do the work.

Secondary/

Individual: Design and Manufacture. Project to provide new furniture for Cathedral.

- designing for an environment
- preliminary discussions to decide basic goal
- final analysis of goal
- formulation of ideas to fit that goal
- development of these ideas
- assimilation of information
- materials construction
- creation of furniture.

Secondary/

Individual: Design A level. Investigation into helping disabled man up the stairs. Success due to helping someone else and finding out about different methods to use in industry.

Secondary/

Individual: Art : Fashion. Final year - a fashion project. Original idea came from myself and it related to a country of study - Egypt. Problem - to create modern dress from ancient art. Enjoyed the need to research art - tombs, statues, hieroglyphics. Used libraries, museums, great help from the Ulster Museum. Although end did not turn out as expected, the research became extremely absorbing. New meaning to previous dull project work.

Secondary/

Individual: Design A level. First year. An individual project, completely of the candidate's own choice, relating mainly to personal interests, but concerned with problem-solving matters where all decisions must be justified. Excellent as part of A level curriculum (50% of final marks) especially where consistency in working habits must be achieved for successful results. Very good for breaking out of the tedium of typical A level subjects. Ability to have contact with actual

problems/situations/professionals outside school. Necessity of working as an individual.

Secondary/

Individual: Art: Print-making. It was a development from a drawing of your own choice : done in lino cut, then screen printing, and another from drawing, done in batik and screen printing. It was good - you were left to yourself, but help was there when it was needed. Not much comparison with others as there was only one other doing Art with me - that would have made it more interesting.

Secondary/

Individual: Design Technology A level. Jewellery project. The development of jewellery based on a theme, leading through designing stages up to the finished article. This involved looking into the history and experimenting in methods of silversmithing. It was successful due to being left entirely up to me as to how I carried out the project. I could look into any area of jewellery I liked without first being told what to do.

Secondary/

Individual: Textiles and Fashion: A level. The starting point was rock formations with photos. Then observation and drawing on paper, and fabric samples and finished pieces of material that could be used for a jacket. The starting point related well to the question and had a lot of potential, therefore it worked well.

Secondary/

Individual: Art. As a whole we were given a few outlined ideas to which it was stipulated we had to conform. The project I found most satisfying was called 'Acceleration'. We had at our disposal broken desks and other materials around the school. From these materials, I constructed a wall-hanging wooden construction which also had a purpose - coat hanger. (Sketch in margin).

Secondary/

Individual: Art A level. We had to choose a local shop, make studies and drawings of it, and make it up out of balsa wood as accurately as possible on a 20:1 scale. It was satisfying seeing how the original photo of the shop compared to the photo of the finished project.

Secondary/

Individual: Art A level. To gather information and to do preparatory work that would lead to the making of a scale model of a local building. Experience totally new to me so it was interesting to find ways to make the model and to find materials to use.

Secondary/

Individual: Fashion A level. A fashion project to design and make an outfit. This was an area I had never come across in Art and

Design, and posed interesting problems which I felt I dealt with very well.

Secondary/

Individual: Art A level. A project of the theme of 'Knots' which I developed in many kinds of ways. Mainly knotted figures in a repeat pattern - then fabric printing (the same design), various paintings of knotted figures, a one-in-two knotted sheet. A friend and I were going to paint an enormous screen (6 ft. by 6ft) developing this idea but we never got around to it.

Secondary/

Individual: Art. Making a scaled down building model. This was done quite recently, and involved individual collection of information, and construction of the model.

Secondary/

Individual: Art. I built a model of a shop. It was very satisfying and turned out very well.

Secondary/

Individual: Art A level: Graphics. Very hard work and long hours involving preparation and varied materials. Satisfying due to being able to see results which were good, due to working harder and for longer than before.

Secondary/

Individual: Fine Art. 2D - interpretation in colours of a T.S.Eliot poem. The poem ('Prelude') and the time (one week off) contributed to its success.

Secondary/

Individual: Art. Getting mock exam papers - the grades weren't important - less pressure. Having several weeks to prepare for the final picture, to gather information. Being able to concentrate on just one factor, and to expand around the original idea. Having an idea that worked pictorially.

Secondary/

Individual: History of Art. I was set a project based on collecting information about one particular artist who I found interesting, and eventually compiling a thesis based on this information. The project involved visiting galleries as well as background reading. The finished project was very individual and satisfying as it led to a very thorough understanding of this chosen artist and his contemporaries.

Secondary/

Individual: Art. I gave a seminar on the great masters of the Prado in Spain. It was very satisfying because I really was teaching others something new - and I'd spent a lot of time in the research of it - slides, cutouts, etc.

Secondary/

Individual: History of Fashion. A history of costume and dress, from Roman times. Including drawing and sketches for men, women and children, at different social levels. Personally interested.

Secondary/

Individual: History/Art. This project was done during a school trip to France (Loire Valley). I had to write about the castles and their contents as well as the history of that area. A lot of research was done as well as drawings and photos. It was very important and satisfying to have seen the Loire Valley, its treasures and to get a feeling of the place.

Secondary/

Individual: General Studies/Architecture. Students were told to go out into the local area - Hampton - and collect information about buildings and define types of architecture and make sketches of buildings. Students were meant to produce conclusions on the types of buildings in the area, defining periods. Reason for success: interest.

Secondary/

Individual: English. A crit of a fiction book of our choice, which should amount to a folder full of work. Done when aged 13.

Secondary/

Individual: Project on 'Punks'. Success of project due to experiencing the punk movement, being there, and seeing it from the outsider's point of view.

Secondary/

Individual: History. Project on the Tudors in my second year at secondary school. I followed through the political wrangles of the time (Henry VIII, Cardinal Wolsey, Cranmer, etc) which intrigued me, and particularly the events leading to, and following, Henry VIII's marital fluctuations. Interest heightened by a romantic fascination at that time with historical novels - important.

Secondary/

Individual: History. War of the Roses project. Analysis of the battles, changes of power, arms of the period. Construction, laid out chronologically. Personally interested in the subject.

Secondary/

Individual: History. Basingstoke Canal. It was about the history of the Canal, finding out how it used to be used, who owned the different sections of it, and its deterioration over the years. After having found out its history, we then studied its present state and how people were now restoring it to its former state.

Secondary/

Individual: History. England during the World War II. Personal interest, curiosity.

Secondary/

Individual: History. NNomads. Research into several books of my own choice, picked relevant information, well-presented, loads of pictures.

Secondary/

Individual: O level History/Film. Three nations' use of film. Choice and interest in the subject, combining many sources, and thus stimulating own thinking on the subject.

Secondary/

Individual: Chemistry. The most important project I last undertook was contributing towards my Chemistry O level. It was based largely on practical experiments, producing our own results, therefore drawing our own conclusions. We worked in pairs but wrote up the work on our own, producing individual projects. I enjoyed the work, though it was a set topic, and I passed the exam.

Secondary/

Individual: History. The most interesting were those of countries in Asia where we had to find out political as well as physical facts about other countries and compare them all.

Secondary/

Individual: Political Economics. An investigation into one's own local constituency, local government and local political parties, including interviews with local public figures and questionnaires with the general public. Success due to personal interest and desire to learn.

Secondary/

Individual: A level Classical Civilization. Dissertation on old and modern production of Ancient Greek Theatre. I had an interest in the theatre to begin with, and Greek theatre especially. The trouble I had starting the writing meant that it was extra satisfying when I started enjoying it and it began to come together. The illustrations and presentation I left until the end and then worked well and the whole thing was brought together then.. The tutor (with whom I didn't get on at all) told me outright that it wasn't good - it was unscholarly and she didn't like my ideas and opinions. So when I got an A, I got quite a lot of perverse pleasure!! I went to talk to two people at the National Theatre who had been involved (designer, director) in recent productions of Greek theatre which gave me a good basis for this work.

Secondary/

Individual: Geography. Study of three different countries: Bangladesh, Australia, India. Learnt a lot whilst doing it. Interested, enjoyed it, illustrated it with own drawings and objects - eg. coins, textiles from country.

Secondary/
Individual:

English Literature. Project on books we were studying. Character research, themes, etc - a mini-thesis. It was my favourite subject so I enjoyed it.

Secondary/
Individual:

(1) A level Biology and (2) Sport.

(1) Biology Field trip project because it was different to the classroom procedure - outdoors, active. There was a large amount of direction also scope for individual enterprise. It was interesting; there was no deadline except for the end of the course.

(2) This project must be coupled with a project in sport, out of school, where I learnt to cope and to get skills in the field.

Secondary/
Group:

Art. A collage 'mediaeval tapestry' approximately 6ft. by 6ft, subject - 3 kings, as a side piece of a nativity scene of similar character, for Christmas school decoration.

Secondary/
Group:

Art. Figure drawing. It wasn't really a project but a figure drawing course. It was the energy of the tutor and the atmosphere within the group that made the results very satisfying. Generally individuals completed a small section of a large project. These sections could be seen as single projects on their own.

Secondary/
Group:

Art. Decorations on a large scale for a school hall. An exciting, imaginative theme, full of scope. Lots of people involved, with work available for all interests and levels. Good organisation. Lots of equipment and materials available - not necessarily expensive. A range of age levels involved. A definite goal. A reputation to uphold.

Secondary/
Group:

Art & Design. Stage set design and construction. Working and thinking with other people with differing and conflicting points of view to achieve a successful end. Gave a break to the trend of work that was being done.

Secondary/
Group:

Art. To do a series of drawings in different media of a set of objects. The basis was to make one object more dominant than the rest in any way possible, size, colour, positioning, texture.

Secondary/
Group:

Art. We were asked to make a model of a building from a front elevation drawing - it turned out well.

Secondary/
Group:

The project I was involved in was a group project. We had to look into the changes and the developments of Preston Town Centre, from the open-air fish market, which my family was involved in, to the building of one of Europe's biggest bus stations. It was satisfying for me because in one stage of the project I was very useful because of our family involvement with fish.

Secondary/
Group:

Biology. Project worked out by the group, in which we studied what food sea anemones liked. This was then put onto a grid according to what type they were, and where they were found.

Secondary/
Group:

Outdoor Activity. Dorking on Duke of Edinburgh Award at School, writing project at the end of a three-day walk along the English coast. Project involved 5/6 people per group. What had been seen and done was enjoyable to re-live in the project.

Secondary/
Group:

Drama. A project for a drama exam. Working with a friend and given very few guidelines. Good teacher.

Secondary/
Group:

History. In the last few weeks of the Upper Sixth, I studied S level history with 3 other people. It was interesting as it put a new angle on A level history and showed that it is impossible to view any fact in history as truth. The culmination of it was the exam which did not go well and we all failed - oh well...!

Individual: Art, personal endeavour. No project really stands out in my mind except the worst one (see other page, *) But perhaps my own personal interest in art throughout my life so far could be defined as a project, and so far has been fairly successful in that I have improved and learned, although that learning is incomplete as yet.

Individual: Mechanics. Repairing a car engine, an old (1939) Rolls Bentley, not actually for school. Great personal satisfaction in watching an engine return to its former state. Well-planned because a lot of research was needed before and during repair.

Individual: Artistic, with a musical theme. A mural painted for a recording studio. We were given a free hand as to its style and content. The only guidelines given were that it had to be of a musical theme, in part. The elements which contributed to its success were that there were only two of us involved and therefore there were very few disagreements. We had to draw the design out in charcoal, inventing the subject matter as we went along which led to many bizarre and amusing images. It was also satisfying because it is a permanent display of one's talent and it allowed for experience with new equipment.

Individual: Photography. The project was based on photographing an object from many different angles - changing its form and identity - the object was a turtle skull and I photographed it in different lights and printed the results. I found it interesting to put the skull in all different places in the sun and in the garden.

In Austria we never had projects at school. Sometimes we talked about a problem in class and tried to find a solution for it.

6 : EXAMPLES OF BEST PROJECTS

Primary/

Individual: English. Helen Keller project which allowed me to examine her life and thoughts rather than just researching pure facts and numbers. It gave me a reasonable knowledge of difficulties of dumb people.

Primary/

Individual; Project on American Indians. Good successful project because it was interesting to learn about those people. It involved going to museums and learning how those people lived. It encouraged us to be creative - eg. copying methods of how Indians made clothes, jewellery, etc.

Primary/

Individual: History. A project about the Kings and Queens of England. I had great fun finding out about their different lives and then presenting what I had discovered in the form of a written and illustrated project.

Primary/

Individual: An Art History project I did on Manet, Monet and Renoir. I went to a few exhibitions and compared their work, which was quite difficult since they are all famous and much admired. I also drew and took pictures of their work to show examples. I was pleased with it because it got a good assessment and I learned a lot from it.

Primary/

Individual: English. Project on the suffragette movement and its consequences. Making up scrapbooks and visiting museums.

Primary/

Individual: History. Monasteries - variation of approaches, such as 'A day in the life of a monk', plans of the buildings and their uses, such as the hospital for the poor and cells for meditating. Drawings are important for description.

Primary/

Individual: Environment. Owing to great lack of projects done, the project which stands out is a project which I did at the age of 10, on wildlife birds. It was enjoyable purely because I was young and keen, and was working for myself for the first time, therefore it was a new experience.

Primary/

Individual: The History of the Police Force. It was concise, in chronological order, neat and substantially illustrated, backed up by a visit to a police station and a talk to some members of the police force.

Primary/

Individual: Biology. Due to a lack of actual set project work, one of the only projects which stands out in my mind was when I was about 9-10 years old. The project was a 'newt' project. Its success I am sure was due to a great number of illustrations and actually being able to gain knowledge from the live creature itself, following its life cycle.

Primary/:

Individual: Probably most successful was a Biology project at prep school. It was totally open, and was a subject that I was extremely interested in. It involved a lot of diagrams and sketches which I could do.

Primary/

Group : .Art. Building a model theatre in a group of about 5. Initial drawings were done in Wimbledon Theatre and we tried to make a replica.

Primary/

Group : Art. Project to make mural collages. Contributions from everyone, from each individual. Initially everyone was excited and looking forward to starting the project. The project was done every Friday morning during art. Project was seen to grow by everyone. Growth of knowledge + ideas = enjoyment.

Secondary/

Individual: Art. A study of an Edward Burra painting in which I did my own version of the painting - very enjoyable and personally satisfying. I chose the painting, made several copies of it, and made my own sketches, using friends as models, re-arranged the painting and produced a final painting consisting of different models in slightly different poses but in the same vein as the original painting. This gave me a chance to learn about an artist and to experiment with paints.

Secondary/

Individual: Art/Textiles. Designing a pattern for the material for any item of clothing. I designed a scarf - enjoyed it because there was plenty of scope. The design was simple and easy to print - learnt how to print on fabric and became interested in other techniques. I really enjoyed it.

Secondary/

Individual: Photography. Patterns. Take a series of photographs which show natural patterns. It made you more aware of your surroundings and aware of how many natural patterns there are. When the photographs were developed, they produced a striking visual effect.

Secondary/

Individual: The Elizabethan Age. Great explorers - Drake and Raleigh. Introduction, biographies of Drake and Raleigh, historical context, research into the state of places they went to, subsequent development, conclusion. I was able to choose my own specific title from the more vague 'Elizabethan Age' and therefore chose something of personal interest. Full range to write about - biography, history, plenty of room for illustration, maps etc. At start of project, I knew very little, but cumulative research taught me a lot about the subject.

Secondary/

Individual: Geography - a field study of Giggleswick, North Yorkshire. The purpose was to discover how the landforms of the area had been created - a process of collection of data and discussion, with variations of process. No process could be argued as being definitive, there was always a different side to be weighed in the balance. It involved collection of data, arguments, illustration of location and personal views. It was well briefed and clearly set up. A lot was discovered so great organisation was needed. It was exciting discovery.

Secondary/

Individual: Art. For an A level project we were asked to sketch different things about Hampton Court. We had to sketch parts of the garden, the building, the visitors, etc. For me it was a success because Hampton Court has so many interesting elements. It is historical and there are so many different people who visit the palace. Through doing the project I learnt more about Hampton Court than I would have done if I was reading a book. We had a task and we learnt through it, just by doing that task. It was a simple brief.

Secondary/

Individual: Art A level. To paint our life journey. We painted it in our favourite colour, which gave it a personal feeling. It was stimulating, everyone seemed an individual. The more work one did on it, the more involved one became.

Ssecondary/

Individual: Art A level. To build a scale model (1:20) of a building of your choice. It appealed to my own interests and was a challenge.

Secondary/

Individual: Biology. Short term ecology project. Field study in groups but actual collation was individual, extremely well-prepared in classroom, and in subsequent follow-up work. Also rigorous, so satisfying when concluding project. Actual fieldwork was in a relaxed but rigorous atmosphere which was both enjoyable and gave a good working environment.

Secondary/

Individual: Geography project of my local environment - documenting traffic levels, rainfall, wildlife and noise in immediate area around my house. Successful because I won a prize for it for well set out research (and because I wrote it).

Secondary/

Individual: Research project for A level Art on Chinese design in textiles.

Secondary/

Individual: Communications Studies A level project. To produce a piece of communication, with the audience in mind, eg. a guide/film/leaflet/book.. I produced a guide for beginners to my school's skiing trip - hints on what to wear, information on the resort, etc. Age group 10-15 years. Questionnaires - successful. Analysis of already available subject matter. Research at travel agents into resort, including maps, ski runs, etc. I learnt a lot about research. I spoke to the skiing party as a whole one evening, outlining the project and its needs which was very important to give the children a clear picture. Good brief and build up to the start of the project.

Secondary/

Individual: Drama O level. History of Costume.
1. Cavalcade of costume - Egyptian to present.
2. Hats, gloves, shoes.
3. Costume linked with architecture.
4. Photos and illustrations of exhibitions.

Secondary/

Individual: Biology. I did a project on a field trip which involved staying in a study centre in Wales. I enjoyed it because there was a lot of practical work and the whole theme was well defined, yet fairly free., including one completely free section. The people and atmosphere were also great.

Secondary/

Individual: My best project was in secondary school, done individually in the subject of Art. It was the best painting from the vacation work that I had to bring here when I came. Its theme was 'Fishing near a Cyprus village' and it took me two weeks to do. I visited the village, studied a lot about fishermen, the sea, water reflections, the colours, did about 5 sketches and at the end it resulted in a wonderful piece with a fishing boat and a fisherman in the front and a village in the back, together with a wonderful interpretation of sea and water reflections.

Secondary/

Individual: History. I really enjoyed a history project that was once set for us to do individually. You could choose from certain topics and produce a project in writing and pictures on the subject of, for example, Shakespearean theatre, Normans, etc. The teacher did give a rough outline as to how it should be set out and told us where to look for material, then the rest was left to our imagination. He was encouraging and enthusiastic about the work as well.

Secondary/

Individual: Art. Mural project. Portrait of a friend in a Cote d'Azur setting. Combination of still life, portrait and landscape, using outside information, ie photographs, and personal experience.

Secondary/

Individual: To prepare a project on the snow leopard - a national project. I came second.

Secondary/

Individual: Design & Technology. To design the layout of a room for a disabled student. This was a challenge, mentally and physically demanding. The solution was capable of being achieved. Research and analysis were gone into in great depth. The solution was satisfactory. There was the satisfaction of the finished report.

Secondary/

Group Physics. Project for a national competition entitled 'Energy 2000'. It was a study of all energy forms that exist ie. coal, oil, hydro-electric power, solar, nuclear, geothermal, etc. It concluded with a questionnaire which we compiled, then analysed, thus finding out what sort of energy people would like to see used in 2000, what they thought the alternatives to coal and oil were, how much they actually knew about fuel, and also the use of energy about the home.

It was done in a group of 5 girls. I also enjoyed the presentation. We typed an illustrated report and made a series of coloured slides. We then had to prepare a 20-minute talk and answer questions from a panel of judges. As we won the Northern Ireland section, our prize was a trip to London for the finals of the Shell Energy Competition.

We also did another one for a BIM competition entitled 'The Flax/Linen Renaissance in Northern Ireland'. This was very interesting as it was all about the history of Ireland and the technology to do with the linen industry now available in Ireland. Similar structure and presentation to the one above but done at an older age. Also won a trip to London.

Secondary/

Individual: Biology. Smoking. All about respiration. Experiments - eg. if smoking affects your lungs and the amount of nicotine in various brands of cigarettes. The cigarette experiments were conducted in class but the bulk of the work was done on my own.

Secondary/

Individual: Making things by hand. Personal projects like making things that I enjoy; if not, adapting projects in a personal or individual way.

?Secondary/

Individual: 1. Work. Producing a layout sheet to correspond with fashion shoot, where all the garments were listed and matching accessories bought. The necessary brief sheets were made out and the clothes taken out on location and photographed. Lasted 2 weeks. Very enjoyable.
2. Observing architecture and shop fronts. Made you realise just how much you take for granted. Made me more aware of the surroundings we are in.

Secondary/

Individual: Design & Technology A level. Overhead projector acetate roll cleaner. Research into the need for the device, investigation of similar or existing systems. Made animated models, and all sorts of preliminary and technical drawings. What made it so good was that on my own I had covered all the research aspects and the development up to the finished prototype. I was only roughly guided by teachers who told me where I could go wrong, but didn't influence my ideas. But at least they were quite definite when they did comment.

Secondary/:

Individual: Art (inspired by tutor). This was a private project designing Christmas cards. There was not a constant nagging, breaks when I needed them naturally, continued at home and at school although mostly at home, with a satisfying end result. No help, but encouragement.

Secondary/

Individual: History. Essay-based, concerning specific aspects of twentieth century subjects relating to black struggle - USA 1960, Stalin's Russia - 1930-42, Krushchev's Russia, China. Interest in researching the subject, involving emotionally. Pressured work, eventual result very satisfactory.

Secondary/

Individual: Art. Summer project to make a model of a building you know - a shop. Chose Bonne Bouche cake shop. Loads of sketches and photographs, plans, etc. Was enthusiastic because the project was interesting and it was towards my portfolio.

Secondary/

Individual: History of Art A level. Ancient Yoruba art and civilization. A success because of personal interest. Visual stimulus, genuine motivation through subject, not the thought of the A level at the end of it.

Secondary/

Individual: Art. I cannot think of any outstandingly fulfilling project - the majority tended to be at primary school - where they were broad, vague projects, not particularly demanding or interesting to start with. One I remember as being quite enjoyable was an art project in secondary school. It was enjoyable because I felt I had fulfilled the project in the best way ie. finished it. (other projects seem a little open-ended and unsatisfying).

Secondary/

Individual: Art. Shoe-making project. There were very few set guidelines for this project. I could do it in any way I wanted. I enjoyed the freedom to be as adventurous and imaginative as I wanted.

Secondary/

Individual: History of Art. The painter as a printmaker, with reference to Frank Stella, Howard Hodgkin, and Edgar Degas. Successful elements - great interest in the subject, meetings with my favorite artists, teacher was inspiring.

Secondary/

Individual: Geography project for Scottish Higher. Done on subject of own choice, therefore interesting. Project about tourism in St Ives, Cornwall. Given more or less a free rein in what the contents were. Most successful element was design and layout (opportunity to use another subject I enjoyed - art - in the project). Project based around a questionnaire, again made up by myself.

Secondary/

Individual: History. Project on the 1920s. Successful because it was a topic that I enjoyed, much information available and a lot of changes and variety happened in that decade.

Secondary/

Individual: Art. Poster for Remembrance Sunday. Simplicity of reproducing the idea. The strength of the image produced.

Secondary/

Individual: History. A study of the influence of Scandinavian invaders on the art and culture of Anglo-Saxon England. It involved much source material, extensive reading, study of actual artefacts - eg. Anglo Saxon art in British Museum. Success came from a study of source material, whilst discarding more up-to-date, accepted ideas.

Secondary/

Individual: Ceramics A level. A project involving 3D work. I gained a lot of achievement even if I failed in my task.

Secondary/

Group : Art. We were asked to design a record cover and invent the name of a pop group. The project also included making a slogan, trade mark, writing a song, inventing an image. It was a success because we were at an age when music and records were of great interest to us, so we were interested in styles of groups and record covers of the time.

Secondary/

Group : History. Castles. On Romanesque, Byzantine and Gothic architecture. Also about defence and historical incidents. A great many illustrations that interested me. Presentation was important. Group work appealed to me - a lot more was done and there was team effort.

Secondary/

Individual: Most of the projects at school followed the same lines. They were started from objective drawings then you were left to alter and arrange it as you wanted. Art was the only subject in which you did projects unless you were in CSE. Some project work was done in computer studies.

Private: Design. Personal project used for National Graphics Exhibition. A computer graphics animated film, taking one through the eye and into the mind. The brief was fairly open and there was room for imaginative design. Use of modern 'paint box' computer systems was very exciting.

D

DESCRIPTIONS OF WORST PROJECTS

Primary/

Individual: General Studies. Quite simply, at the age of 10 or 11, we were made to sit outside the school gate in total silence and count how many cars passed in front of us, with the appropriate letter of the year on the number plate. This exciting project went on for a whole week which included one hour a day's project work. It was such a disaster that I don't even remember the result of, or reason for, the project.

Primary/

Individual: Can't remember. It was unsatisfactory because it was done alone - about three people seems to be the best idea to me.

Primary/

Individual: PE/Dance routines. No ideas, no-one prepared to lead the others which was necessary since it was a group project.

Secondary/

Individual: Art. Each person had to choose an object. He had to draw that object on paper and then divide the drawing into six equal portions. He then had to take six different media and complete the drawing of the object using one medium for each box. The project was useless for two main reasons, the first being that the student had no training in the media he was supposed to use; secondly, the one surface that was being used to draw on was not receptive to each medium, therefore the student was expected to use a medium foreign to him on a surface alien to the medium, and expected to find the project beneficial!

Secondary/

Individual: Art/Colour. We were each given a colour to study and to find out its sources, and religious and social importance. This project was hindered by the fact that the work to be done was on top of our normal amount of homework and that it really required considerable research for which none of us had time (taking into account the other 'A' level subjects we were working for). Unfortunately, my project was far too superficial and I was unable to say what I really felt and was interested in because I didn't have the necessary number of facts to draw upon.

Secondary/

Individual: Music. We were told to write about famous composers which at that time we had no interest in anyway. I remember I ended up writing the text out word for word from a library book. I didn't take anything in at all,

Secondary/

Individual: Biology/Agriculture. Study of agricultural methods and requirements in pasture farming. (a) Theoretical study of structure, principles of grass in biological terms. (b) Practical application to an agricultural purpose - trays of grass sown under the same conditions - variety of different species, mixtures, hybrids, etc. Gauge effects of fertiliser, light, conditions, by monitoring growth and weight of grass crops taken from each seed box - dried and chopped and recorded on charts as hay feed. Unsatisfactory because (a) difficult weather conditions damaged experiments; (b) difficult to carry out standard methods with regard to equal drying and seeding, (c) difficult to count amount of grass sown and reaped, which led to unreliable results (d) lack of impetus - not a compulsory project. Project petered out as there was not enough adequate formal guidance.

Secondary/

Individual: Art. To give your view of the way in which newspapers reflect the way people live and give your view of the different sorts of people who read the different newspapers. To use one form of art to express your views - theatre design, illustration, fine art. The project was too tight in that you could not choose different ways of working - I chose Graphics but I could not adjust it to anything else. I was given no help to extract my ideas. It was unfinished as I had only 4 days to complete it in. Everyone produced the same stereotyped ideas of the kinds of people who read newspapers.

Secondary/

Individual: Design. Design tiles for an underground station. The generalisation of the factors involved in the basic construction of the project as a task unit failed to inspire the qualities necessary to fulfil the project aim.

Secondary/

Individual: Design of book cover. Design for book 'Poems of War'. The design was lacking in the strength I wanted. Also the technique was not too good nor was the presentation. The soldier was not created too well - not original.

Secondary/

Individual: Graphics. Lettering project with several stages following on one from the other - given instructions. These instructions were too tight and hard to expand on and introduce own ideas (but good training for orderly and flowing thinking). Although an individual project the finished projects amongst the students were the same interpretations which gave the feeling of a 'school project'.

Secondary/

Individual: History. The title for the project was 'Transport in the Eighteenth Century' and I had to show how individuals contributed to the transport system, and also how different modes of transport were suited to particular industrial areas. The project was unsatisfactory mainly due to the lack of information in both the local and the school library and the fact that the teacher had no enthusiasm for the subject. The project was set over a long period of time and by the time I had to hand it in, I had lost interest in it.

Secondary/

Individual: Art. Title 'Yellow'. The sixth form art group consisting of eight people each of whom was given, randomly, a colour of the spectrum (the eighth person had 'black and white') to work on individually. The brief was to do a project on that colour. The instructions were simple thus allowing full range of the imagination. Unfortunately, a proper brief was required to give some guidelines. Due to the very nature of the project, colour being infinite, it was difficult to write anything, let alone come to a conclusion.

Secondary/

Individual: Art. To do a large abstract painting. The piece was one of the largest I had worked on, and the time taken was also quite substantial. The board was 8 foot high and when confronted by this, I did not know where to start as my experience of abstract painting was minimal. I began with large areas and then tried to separate each colour with dark lines. This was unsuccessful. Finally, after four weeks of working, I decided I should decrease the scale by doing a mock up of the painting on paper. Subsequently, by painting in the area of colour with grey, I arrived at completion point. But although the end result was reasonable, I was ill at ease right throughout the project.

Secondary/

Individual: Art. General sketching - holiday work. Unsuccessful because no specific guidance was given. As a result there was no continuity in the project - just a series of unrelated sketches - very unsatisfactory.

Secondary/

Individual: Sociology. A project was set on 'Population'. We were given a book on population and from that we had to extract relevant and interesting data. Everyone had the same text book but there was far too much to look through and it was tediously boring. There were few diagrams - it was visually uninteresting. I don't think I would ever have chosen 'population' as a topic to study; possibly it was unsatisfactory because I had no choice. Lastly, the project seemed to be eternal as I had no sincere wish to finish it.

Secondary/

Individual: Biology. The dissection of a rat over several weeks - exploration of digestive, skeletal and nervous systems. I disagreed ethically with the project. I was more interested in living animals, etc, and was forced to do the project.

Secondary/

Individual/

at home : Art. Aim : to make a simple boat from wood. I put it together with nails. It was a disaster - it sank when I immersed it in water.

Secondary/

Individual: Art. Firstly my primary education came and went so long ago that I can barely now remember the school, so I can't comment on any primary projects. As far as the worst project is concerned, I fear it must have been my first attempts at life drawing, now some two years ago. The relative failure was not however due to any dislike of the subject, not to the organisation, but to my naive attempts at depicting the human form in accurate enough proportion. Continued attempts at tackling the subject since have, however, resulted in a far greater sense of accurate proportion and of competence in the underlying draughtsmanship.

Secondary/

Group

: Biology. A project about insects, drawing and writing about them. It was too specific as I was told exactly what to do and it was very monotonous.

Secondary/

Group

: Sociology. The project was concerned with the study of two age groups of students in a comprehensive education system, to try to discover their attitudes towards education in relation to their class background. I found the project unsatisfactory because we were unable to collect sufficient data to enable us to draw a satisfactory conclusion.

Secondary/

Group

: Science. It was a group project that didn't suit every body; some liked it, some hated it. Restrictive guidelines were put on the project - there was not enough freedom.

Secondary/

Group

: Languages. It started as an exchange trip to France. My 'penfriend' came to stay for one week then I went back and stayed with her. After this we had to write up a report of the town we stayed in - Rouen. It was unsatisfactory because the girl and I did not have many similar interests but there was nothing we could do about it. Our knowledge of the second language wasn't really sufficient to hold a

conversation so the English people ended up speaking amongst themselves. The point of the exchange - to improve our French - was therefore lost.

Secondary/
Group

: Sculpture. Using pieces of broken furniture, eg. desks and chairs, we had to construct a large structure which denoted motion or acceleration or deceleration. Lack of materials and limitations on the variety of pieces of furniture made it hard to construct what the group had in mind. Most of the pieces were of uniform shape, ie. rectangular blocks or legs, and were therefore uninteresting.

Secondary/
Group

Religion. Boring subject, no group interest or participation.

Further Education/

Individual: Design & Technology. The first project attempted during my 'A' level design course required a self-propelled car to be designed. Drawings were produced and construction commenced. The body consisted of a glass fibre shell. The wheels were made from plastic moulded in an injection mould constructed as part of the project. This consumed more time than intended and when finished did not perform as intended, producing partially formed wheels. Two were eventually formed. The car was driven by a a battery powered motor. The finished car moved slowly under the power of the motor due to the excess weight of the body. The chassis for the rear wheels and motor required redesigning to economise on weight. This did little to improve the design. Lack of available development time halted the project.

Further Education/

Individual: Fashion. A fashion project in which a clothes had to be designed, together with the catalogue in which they were to be displayed. A rough layout of the catalogue had to be submitted, outlining all aspects of printing, materials, etc. All this had to be produced at home as an optional vacation homework. I found little inspiration for designing the clothes - it was made worse by the fact that it was an individual project - and I concentrated on the catalogue layout and textiles. Overall, the clothes I designed lacked imagination and, more importantly, originality. After absorbing myself in the actual catalogue itself and the representation of textiles and the colour co-ordination of the clothes, I felt I had been able to achieve something from the project. The fact that I had not been able to 'absorb' myself in the project - to come to grips with it - bothered me and left me feeling unsatisfied with the project in general.

Further Education/

Individual: Letters. We were not given enough time and the project became too detailed. Firstly we were told to make several designs involving our initials - which was good as we were left alone and worked individually. Then we were told to draw a certain sized square and to enlarge our favourite design, to make a black-and-white tonal study, then a colour study, and then one in wood. It was disastrous as your own imagination was not given the chance to work - you were told exactly what you had to do. Surely it would have been better to let us develop the ideas from stage one in any way we chose!

Further Education/

Individual: Art. Movement and behaviour of water. I could not sketch and register what I saw. It became flickery and looked more like flickering fireworks than the movement of water.

Further Education/

Individual: Maths. Project on investment theory, investing money in banks, in building societies, etc. There was lack of information, not enough examples, too little of our own work - a very thin project.

Further Education/

Individual: Design. I had to hand in a design for a letter heading for the New Malden Chamber of Commerce competition. I worked hard on it and was quite pleased with the result. But the Chamber of Commerce said they were very unhappy with the standard and unfairly contradicted what they'd said by only giving one prize. It was not the lack of reward that was the problem, but their blinkered reaction. It was such a waste of time, apart from the value of the practice.

Further Education/

Individual/

at home : Motor go-kart. The project was to build a wooden frame, include a steering mechanism, bolt the motor to the frame and work out some form of a drive mechanism to the rear axle. I completed the project but it took many months and the wooden frame couldn't cope with the engine vibrations.

QUESTIONNAIRE 1:

Question 6

6. Now, out of all the projects that you have experienced, choose the one that stands out in your mind as the worst, the least successful, the least personally satisfying

Write a thumbnail sketch of that project and try to pinpoint those elements that made it so unsatisfactory.

Primary/
Individual Social Environment. Pollution. Too vast an area. I could not really pinpoint an area which had a start and a finish, bad because it was too generalised and did not clearly interpret any sphere.

Primary/
Individual Biology. Early medicine. Unsatisfactory as an interesting subject, lack of material available.

Primary/
Individual Social History. Historical project based on social conditions (all text books), lack of interest, lack of personal information (resulted in stereotype final product). No real sense of achievement. Minimal feeling of relevance.

Primary/
Individual Economics. A study on how to sell marketable goods.

Primary/
Individual Bexhill. At primary school we were supposed to do a project about our "educational" holiday at Bexhill. We only visited one local landmark therefore nobody managed to do any work.

Primary/
Individual Science (Biology). A project on "The Camel" done in primary school at the age of ten. I failed it miserably because I did not leave enough time for research and the only bit I enjoyed was drawing a picture of a camel in a sand storm. The thing is I did learn from it because I still know things about the camel.

Primary/
Individual 1930-1950. A project based on the 1930's to about 1950. Although interesting topic to me now, was made boring because project was based on what the individual could find in the home and from relatives etc., very restricting. Limited the project and encouraged "waffle" on the amount of items actually found.

Primary/
Group History.
Not enough time.
No body of knowledge.
No aim.
No comprehensive thinking.
No thought!
No discipline.

- Primary/
Group School holiday. We all went to the same places and saw the same things and read the same books. So naturally the children best at copying and taking everything down gained the top marks. There was no room for self expression. Even the layout of the project was mapped out by the teachers making all the project almost of identical content but some more substantial than others.
- Primary/
Group Arundel Castle. Lack of interest in the subject therefore no motivation not enough time given to get involved.
- Primary/
Group I cannot remember - probably a history project run by a student - build some Elizabethan model ship - or something - vague - did not capture our imagination - over ambitious (our own fault?)
- Primary/
Group None stands out as significantly bad, although other than the Elizabeth I and art 'A' level projects, I found the rest rather boring, and often at primary school. Especially I felt inadequate when left to my own devices.
-
- Secondary/
Individual: Biology. Unsuccessful subject matter was tedious. Even though it was an individual project, an interest shown on the part of the biology master would have been appreciated.
- Secondary/
Individual: Art. Drawing of the Pope for an SUP campaign was the least successful because I was given a picture to copy and was told exactly how to place the figure on the page etc. There were too many restrictions.
- Secondary/
Individual: History. History exam assessment. Failings - too little personal encouragement from teacher, all work done in own time.
- Secondary/
Individual: Geography. A geography project set as a test of knowledge, specifically defined areas to be covered, very limiting.
- Secondary/
Individual: History and geography. North American Indians. Project studied the life-style in the twentieth century and in the previous centuries not only of one tribe but several to study. The variation in their life-styles overlapped into the American history of that period too much causing confusion.
- Secondary/
Individual: Project on pollution. Not enough depth, and no interest in project. I believe no interest in an idea makes difficulties for a student.

- Secondary/
Individual: History of school. A forced project about our school which gave us no incentive and did not help us with where to find the information.
- Secondary/
Individual: History of the (old) school. There was limited information on the subject. It was not explained satisfactorily - aims and methods were not clear. Very boring. It was not useful in any way.
- Secondary/
Individual: Geography. A farm study - two hours spent on a smelly farm talking to the farmer. The interest was not there, the farm was small and rather limited and picked only because it was in a convenient location. Questionnaires and too much direction squashed spontaneity.
- Secondary/
Individual: Biology. We had to do a field study in biology and I wasn't interest in it. It was at school and had to be worked on in class and out of it.
- Secondary/
Individual: Maths (statistics). Study of voting behaviour in area of residence. Boring topic.
- Secondary/
Individual: Own choice, hobby, etc. Own choice of subject (written) and left on own didn't do it until last minute because left on own.
- Secondary/
Individual: History. The history project in secondary school. The end product consisted of an essay with various drawings to described the events of the First World War. A general lack of information and hurried work caused it to fail as a seemingly straightforward project.
- Secondary/
Individual: Art. Line project. Research line, draw things just in line. Difficult to understand, didn't get anything from it.
- Secondary/
Individual: Biology 'A' level. "Colour preference in man". Hated biology - was forced to do it therefore no choice. Could not think of anything to write about. Project totally unspecific. Eventually choose colour theory - could not find much material on it - felt other pupils' projects more scientific and professional. Left it till last minute and ended up just copying out a book and making up colour preference charts. Sense of achievement in actually finishing it and getting it over with.
- Secondary/
Individual: Biology. Project on "The ant". All copied out of a book due to laziness and lack of interest. Some things written down were not even understood.

Secondary/
Individual: Geography. I can't really remember but I think we had to do a project on aborigines. With little interest in the subject, I think in the end it consisted of two or three sides (not pages) of exercise book paper (e.g. small) and the cover which had a drawing of an aborigine.

Secondary/
Individual: History. Set title/individual with set time to complete. An end of year test. The fact that I was not interested in the title made the project a chore for which I could summon no motivation.

Secondary/
Individual: Religious studies.
A project set in the religious studies class.
Lack of interest in the subject.
Uninteresting teaching.

Secondary/
Individual: Art. An art project to use colour, tone and texture to suggest depth, perspective and reality. I did not enjoy this project because I did not understand it and my efforts were not considered satisfactory by the teacher taking the class.

Secondary/
Individual: Biology. A biology project set for a CSE exam was the worst and least satisfying, although I have done successful projects. Apart from illustrations that accompanied my essay, the subject I had chosen did not interest me.

Secondary/
Individual: Human Geography. Project on the Tudor period - uncreative - limited- not visual - irrelevant to me.

Secondary/
Individual: History. History project on Alexander the Great. Lack of analysis, enthusiasm and original opinion.

Secondary/
Individual: Art and design. Sixth form. We were given far too much time and hence the project became boring and eventually the task became less necessary to complete satisfactorily. The task trailed on and eventually what was an individual task ended up as a joint disaster of incomplete unsatisfactory work. It was a continual project over a term to be done when we could, hence became a little forgotten because of other work and projects going on in other areas.

Secondary/
Individual: History. History of trains related to industry. Unsuccessful because individual and therefore uninspired.

Secondary/
Individual: Geography: physical geography. Filling scrap-book with pictures and diagrams (many from magazines) and brief explanations of how landscape etc. was formed. Hatred of subject! (and of teacher!) lack of the initiative required.

- Secondary/
Individual: Statistics. The Poisson distribution. I had little choice of topic area: the whole project was merely to illustrate a result I was already given. The project was to summarise a certain statistical method.
- Secondary/
Individual: Biology and ecology. "A study of the biology of an undisturbed metre square of ground over a period of twelve months"
1. Long and drawn out, I could only go so far every month.
 2. It was dull, monitoring growth of plants, rainfall, recording and identifying plant and animal life repeatedly month after month, very repetitive.
 3. I lost interest after a few weeks of going out every single morning to measure the ground temperature and once the continuity of results was effected, "holes" appeared in the project making it of less use and less accurate.
-
- Secondary/
Group: Biology. Sea life in a rock pool. Hated subject and trekking over rocks and staring into pools of water.
- Secondary/
Group: History. At secondary school we had to design and write a newspaper of events that might have happened or would have happened during the Renaissance period. There was not enough information open to us and was basically a waste of time.
- Secondary/
Group: Biology. Field study. Study of a specific stream analysing the characteristics that constituted the stream e.g. wildlife, mud clay formations. Unsatisfactory: lack of interest not enough factual knowledge available.
- Secondary/
Group: Geography. The weather a project whereby I have failed to understand the true concept and reason for doing the study. Uninvolvement. Not personally satisfying.
- Secondary/
Group: History. Study of local history - church, houses, etc. Concentrated on origins and did not connect past to present.
- Secondary/
Group: Art. Project concerning the drawing of a changing object over several weeks (at home). No work was produced because of lack of motivation amongst pupils, probably due to lack of enthusiasm for subject.

Secondary/
Group:

Drama. Limiting time factor meant that personal contributions to the "group" were not sufficient for one's own aims, but were sufficient for the aims of the project as a whole, i.e. many minor contributions - resolve project but do not resolve personal aims.

Secondary/
Group:

The workings of guns. A series of talks from which notes were taken and personal research had to complete project. Failings: lack of research material on chosen subject, therefore lack of interest. Too structured.

Individual:

Architectural design. (Can't remember the "worst" but this one wasn't excellent). Discord on creative, practical and structural grounds with the rest of the family (the group). Not being able to carry the project through from start to finish.

Comments:

Not enough information, resources and practical advice for the problem in hand.

Comments:

I cannot remember a specific project I disliked but projects I cannot understand or projects I have no great interest in that do not produce personally satisfying results would be my definition of a bad project.

Comments:

Science. Unsatisfactory elements. Lack of interest in subject (i.e. lack of choice) unhealthy elements in the group (i.e. pains in the neck!). Lack of concern with presentation. Short project not enough time.

Comments:

Projects when one doesn't quite understand what is required.

Comments:

All the projects I have done were satisfying, because they all involved studying or practical work with an outcome, successful or unsuccessful.

Comments:

I do not remember one as such but I do not succeed when I do not understand the aims or am uninterested in the subject matter.

Comments:

Very difficult to define a bad project. I suppose it would be one that when you have finished it you feel you have not learnt anything.

Comments:

No particular project was unsuccessful but in general, the ones which were group/joint projects were less personally satisfying.

Comments: The characteristics I think that make a bad project are that of too much conformity and restriction and a lack of imagination and creativity. This I experienced in a project set to me at my former school.

Comments: The few that I have done have been uninspiring mainly done at school (which didn't help much).

Comments: Most projects I have enjoyed except for a few set by teachers for examination assessment - technically orientated.

QUESTIONNAIRE 1 :

Question 6

6. Now, out of all the projects that you have experienced, choose the one that stands out in your mind as the worst, the least successful, the least personally satisfying.

Write a thumbnail sketch of that project and try to pinpoint those elements that made it so unsatisfactory.

Primary/
Individual: History. I found the subject set for the project uninteresting and there was insufficient guidance given as to what the teacher expected. There was no continual checking to ensure that we were working along the right lines and I soon found myself swimming in a mass of boring material. The aim of the project was to write the history of a particular historical figure; there were many books about him and most attempts simply resulted in copying from the text.

Primary/
Individual: History. My worst project was done at primary school. It was about "Life in Roman Times". It was very basic stuff, but as it was the first project I had ever done I was scared of doing anything wrong and therefore it never got finished. The projects were displayed on the wall and I got into trouble for being lazy.

Primary/
Individual: Biology. A project on biology in which I could barely crank up the interest to do the research or even write it out.

Primary/
Group: History. Richard III. The most unsatisfying project I ever took part in was a group project on Richard III. We were restricted in what we could write and the initial idea was somewhat more interesting than it actually turned out to be.

Primary/
Group: Uninspiring, interest not captured, lack of co-operation.

Secondary/
Individual: Textiles. The project which was most unsuccessful was the first project I did with new people. Nobody talked to each other which made all the lessons extremely dull therefore not many people attended all the lessons. The subject was a still life, which was dull in itself. I used the wrong media. No encouragement.

- Secondary/
Individual: Printing. The worst project was a printing one. It was terrible because I didn't really understand what the teacher wanted, and instead of helping me or making it clearer, she made me feel worse. I also felt the work was really pointless with no conclusion. I didn't have enough time to sort myself out or to develop my idea.
- Secondary/
Individual: History. Project on Inigo Jones - outlining life but concentrating on creative contribution to the England of his time. Very dry, rather boring, not fired by personal interest. Involved a large amount of uninspired writing and reading of dry books. Not enough understanding or empathy with the subject.
- Secondary/
Individual: Volume-colour. I didn't want to do this project, the teacher annoyed me and I thought I didn't have enough time to do this work so I was not in the humour to do it.
- Secondary/
Individual: Photography. The worst project was a final and very important one, which I was never satisfied with. It was very technical, production of photographs. I was never happy with work in the dark room, I become easily frustrated.
- Secondary/
Individual: Textiles. The most disastrous project was a lino print project. We had to work out a repetitive pattern to do with "knot". I found difficulty producing a simple pattern which was essential in my case because I found lino printing difficult. The final result was messy and the pattern did not repeat.
- Secondary/
Individual: Art (Practical). In my first year 'A' level course I was in a different school and had a very bad relationship with my teacher. He showed no interest in me or my work, never put us under any sort of pressure, never connected practical art with history of art. Generally I found his lessons completely uninspiring therefore during this year all my projects were (to me) unsuccessful.
- Secondary/
Individual: Drama. A project for a drama course which never got off the ground because of the general feeling of apathy in the class. Boring because it was copying from books. Also I hated the teacher.
- Secondary/
Individual: Photography. The final part of my photography

Individual: course I did a project on commuters. Everything I did went wrong. I had to reprint over and over again. I got extremely annoyed and angry. I couldn't work out how some people managed to find everything so simple and straightforward. I did get a good grade but I hated doing it. It was set by staff.

Secondary/
Individual: Physical Geography Vulcanicity (Geography). To examine all features associated with volcanic activity. I found this totally boring as the information I managed to glean was poorly presented and also boring and I found it impossible to relate to today as I could find no recent information.

Secondary/
Individual: Art. It was an 'A' level art project the title being "derelict", I found this being the most unsuccessful work because subjects like this do not capture my interest and so the finished piece of work was my least personally satisfying one.

Secondary/
Individual: Art and design. Don't know.
1. Took too long
2. Very dull subject
3. Very dull tutor
4. Just didn't feel like doing art that week
5. Distractions
6. Mind wandering off to other subjects (i.e. music)

Secondary/
Individual: Art 'A' level. Analysis of tone in artichoke - many drawings done in line and tone separately, analysing the structure of the vegetable. Particularly uninspiring - general air of lethargy came into the set because of this, increased on itself. Everyone dissatisfied. Tutor unable to inspire the group.

Secondary/
Individual: History of Art. Project on advertising. Wasn't too bad but I didn't have enough time or glossy magazines. Also I got bored half way as I thought I'd gone about it the wrong way and I couldn't be bothered to change - there was also far too much to include.

Secondary/
Individual: Physics. A physics project - extremely unsuccessful because I entered it thinking it was going to be a disaster. Because when disasters occurred I lost patience and reduced my effort and finally because I learnt nothing from the project.

Characteristics of a bad project - 1984/85
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Secondary/
Individual:

General Studies. After my 'O' levels I had to participate in a work experience project which involved working in the medical records department of a local hospital. I found the whole experience totally unrewarding and felt that I was not needed for anything practical and was a general dogsbody.

Secondary/
Individual:

Art: ceramics. A bad project in my view is one that is given a small deadline (sometimes this can help), which means you've got to start on the right track and there is not enough time to explore it enough. Also I find because it's a limited time you have to have a piece finished so therefore the tutor pushes a lot harder which sometime causes his ideas to come out and in the end you feel the final piece is all his and you are just making it for him. A bad project can also come if you're not interested enough and find it boring.

Secondary/
Individual:

French/directors. A project on "new wave" French directors was my least successful project. I disliked the teacher, found the subject boring and did not have enough information. Most of the information was photocopied from French magazines. There was no practical work.

Secondary/
Individual:

Art. A colour project in which I had to copy exactly what was drawn in a book - i.e. masses of coloured whirls - everybody in the class was doing exactly the same - very, very boring - and it would have been much more useful spending the painstaking hours reading all about colour rather than ending up with very little information at all.

Secondary/
Individual:

Latin History. Latin project on the mannerisms of Romans. Conclusion: -
Limited (to me)
Lacking imagination
No room for expanding and developing project
as such tied up project.

Secondary/
Individual:

Business Studies. At the end of the fifth year we were asked to do a business studies project during the holidays to prepare us for the 'A' level course. I wrote this while on holiday (at a camp site). It took ages and I didn't feel that I should be working while actually away from home. When I got back to school hardly anyone had bothered with the project and when I gave mine in I didn't even get a mark, it was just looked at.

- Secondary/
Individual: Chemistry. The project was for chemistry and was on petroleum. The idea and subject was really boring and so therefore my concentration and overall input was to say the least a minimal amount. Apart from the dull subject, the teacher was woolly and had no idea about the subject and how to put it over to the class.
- Secondary/
Individual: Art. Figure drawing in 'A' level subsidiary - lack of preparation. Wrong media decision, felt bad on the day, pressure from friends, history of poor figure work.
- Secondary/
Individual: English/general. The history of the fire brigade. It had to be written with illustrations. It was extremely boring and I hated our teacher and it was really flat and uninspiring.
- Secondary/
Individual: The Beatles. Project on the Beatles I did in secondary school. I didn't enjoy research, it also didn't have enough illustrations. It was also unfinished without any of the chapters being directly related to each other. Old hat subject matter and I didn't get a very good grade.
-
- Secondary/
Group: Science. Science projects were always in groups of about six people and there was never enough to do for six people. So a couple of people would always take over and do all the best bits of the experiments.
- Secondary/
Group: Biology. Biology project on ecosystems, annual relationships. Had to write out reams of petty bits of information which seemed to have very little relevance to my life. Never ending tables of numbers which bored me.
- Secondary/
Group: History of Art. Project on Monet. Never got going didn't like having to refer to books. They had already made an opinion for themselves, I found it hard to make up my own. There was no lively subject matter to work from. The paintings weren't available to look at. I came out feeling frustrated and unsatisfied. It was meant to be a group project but we never really got together. We all did our own thing and they all clashed.
- Secondary/
Group: History. Research into the life of

Characteristics of a bad project - 1984/85

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Group: Napoleon/Battle of Waterloo. As group had to give finished talk to class, left to own devices. Group not very competent. Involved too much reading.

Secondary/
Group: Sport. A house project on sport. No-one really wanted to do it, therefore a waste of time. Each house had to do a project every year, it became dull and monotonous. There was little or no team effort or enthusiasm.

Secondary/
Group: 3-D design/construction. Problems like those of "The Great Egg Race" constructions etc. This was done in a group. I did not really enjoy this because I did not really become involved. Apart from the fact that I could not really find a personal interest in the physics and technical side of the project. I did not become involved with the group. Although I enjoy working in groups and find it helpful this was early on in this academic year and I was unfamiliar with the other students. The atmosphere was strict and so made me more shy and nervous.

Secondary/
Group: Physics. The worst projects I have done were physics projects, they were boring and badly instructed and were organised in a totally unimaginative way which was vague and confusing. They offered no personal satisfaction because most of them were designed to give negative results.

Secondary/
Group: Economics. Working in groups of two or three, projects on EEC, savings, chemical industry etc. People were not really interested in these subject in the detail with which they were researched. Talks at the end of project were done with little thought or imagination and consisted of people reading out what they had copied from text books. It was in addition to normal work and most people considered it a waste of time and effort.

Secondary/
Group: Biology. Biology pond life project. You had to go on a really long coach journey to some ponds and canals and count the numbers of different types of plants etc. The weather was bad and it was extremely boring.

Secondary/
Group: Biological growth.
1. Class unorganised
2. Project was not taken seriously
3. Personally, a topic that did not interest me.

Individual: On holiday in the Lake District, immediately after my 'A' levels - project to record the scenery etc. Couldn't because after the pressure of the intense revision mentally etc. needed time to relax, therefore unable to settle down to the vacation project at this time. (Later - after complete vacation in the Lake District - was able to do very well).

Further Education/ Individual: Art. The first day at this college. We did one still life all day. The objects were not of my choosing and I found them uninteresting. You were stuck in one position, it became very tedious and you could only use lines, no colour.

Further Education/ Individual: Art. (3-D). 3-D day project last week. Choice of subject first contributed to failure of the aim. Bad subject therefore meant lack of enthusiasm. Also not being accustomed to materials contributed to failure. Ironically trying to fill the brief contributed to failure in comparison to others around who seemed to go away from the brief and yet came out with models.

General Comments: I cannot really remember a bad project but I do dislike a group with too many people or people who do not pull their weight.

General Comments: Chemistry. The number of unsuccessful, uninspiring, illogical chemistry projects I have spent days over, without understanding the facts, reasons and figures - failures.

General Comments: I can't remember any one specific unsuccessful project. Things that I think make a project unsuccessful: people succeeding about you when you are failing. Claustrophobic rooms. Lack of heating. Rooms that are too hot. Having to

Characteristics of a bad project - 1984/85
/8

substitute for materials you can't get hold of
i.e. settling for second best. Having criticism
from others when you already feel you've
failed appallingly yourself.

General
Comments:

Can't remember ever doing one [i.e. a bad .
project]

General
Comments:

All the projects I've done have brought me
satisfaction and I can't think of a "worst" one.

General
Comments:

What, me do a bad project?

RESPONSES TO QUESTIONNAIRE 1 : September '85 : WORST PROJECT

Primary/

Individual: Invention. A project individually done when I was about nine (or younger). We all had to invent something, simple or elaborate. I invented a spoon which had a lid to pick up peas without dropping them as I hated the idea of mashing my peas on a fork to stop them falling off. It was the worst because it didn't work and when I explained it to the class, they all laughed at me!

Primary/

Individual: English/History. Project on British Museum visit - descriptions, illustrations and postcards, etc. Written in booklet.

Primary/

Individual: It was about something I was not interested in. I did not find much material on it. I had difficulty and did not enjoy it. So... unsuccessful.

Primary/

Individual: General/ personal choice. Everyone had a 'topic' back at junior school in the final years. You had to do work each week which was marked. It was just writing and pictures on a subject of your choice but little guidance was given as to the choice. There didn't seem to be any point to it, no development, only team points if you did a lot each week. One I remember doing was national costumes of the world and it was virtually all copied out from one or two books. It was very uninspiring.

Primary/

Individual: Geography. A boring geography project on fauna and flora of Australia. There were more illustrations than words in mine. I wasn't finding out anything new because each class did it every year. Everyone used the same books and tackled it in the same way. Teachers lacking in ideas.

Primary/

Individual: General. We had to make our way through the alphabet and choose a different subject for each letter on which a few pages had to be written.

Primary/

Individual: Canals. I had a teacher at primary school who was obsessed with canals. This project seemed to last for the two years I was at that school and by the end of that time I was thoroughly sick of everything to do with canals. The whole class took

part and when we left, this was the only thing we knew comprehensively

Primary/

Individual: Nature. Doing a project that you have no mental inspiration for leaves you with a kind of alienation, and therefore don't do the project properly.

Primary/

Individual: English. One on the History of Costume, because I had no real enthusiasm for the subject matter and couldn't find out much about the history of its development.

Primary/

Group: Building a robot out of shoe boxes. Boring and unimaginative, impossible for the uncompromising minds of young children, caused too much conflict.

Primary/

Group: Art. Bad because working in a group on one picture. I don't like combined efforts in art.

Primary/

Group: Carrying out surveys which last for an extensive period of time, and usually dealing with trivial matters (attempting to deal with sections of society, etc.)

Secondary/

Individual: Geography. I cannot specifically define a particular project I have disliked as I have done very little. In Geography, our essays in the last 2 years were in project form. I disliked having to read up from different books about a topic I found most uninteresting, and having to write a specific amount of words.

Secondary/

Individual: Fine Art/Design. The least satisfying project was one where I had to do about 100 small pictures of one object in different media. I ran out of ideas early on as I chose a pair of glasses as my object, and only completed five of the pictures.

Secondary/

Individual: Geography. a course about Cuba. It was forced upon the individual. There was no direction, no library resources. It taught me nothing and I found it a struggle to complete something I wasn't in the slightest bit interested in.

Secondary/

Individual: Technical Drawing. I was too young to appreciate it. I was just bored by all the technical symbols, etc, and I could see no reason to continue with it, especially as I was made to.

One should have a choice in a project, else how can it be personally satisfying?

Secondary/

Individual: School project about the school's history - compulsory project in the first year. There was limited information, everyone was doing their own project but on the same subject, ie. couldn't choose area, using the same materials as everyone else, no room for own research or ideas.

Secondary/

Individual: Latin. Project on Roman army. Disorganised, vast topic, didn't know where to start, knew nothing of the subject before I started, very little interest.

Secondary/

Individual: Art. Ironically, my worst projects are associated with art, perhaps because I had a more acute perfectionist vision of an aim that was eventually unfulfilled. The title was 'Figures relating to their environment'. My idea was figures in a library, absorbed in their own pursuits, yet equally part of the library and other figures, by their shared individual absorption. An appealing idea, I found, but not so easy to fulfill. I made many sketches of figures in a library, but spent ages trying unsuccessfully to tie them together and produce a composition. I changed the size of board, the number of figures. It seemed interminable. I was sick of the sight of the painting and was dreading Art lessons, and I realised that my original impetus and point had been lost. I abandoned it thankfully.

Secondary/

Individual: A 'book' project about one particular book that I didn't enjoy. Had there been a choice of books, I might have found one I liked.

Secondary/

Individual: Written project in History. a subject which at the time I was not interested in.

Secondary/

Individual: History CSE. A science fiction project. Lack of motivation

Secondary/

Individual: School trip to historic house. Stupid questions. Irrelevant to anything we were doing. Compulsory. Boringly set out. Unstimulating questions. No personal involvement. Research rather than thought required.

Secondary/

Individual: A level Religious Studies. A crit of the first 2 lines of St. John's Gospel - at A level - something I was totally disinterested in and uninspired by. I felt I was gaining nothing from the philopphical study of this Gospel.

Secondary/

Individual: A level Art. The subject matter was very repetitive. The teacher created a bad atmosphere, there was lack of guidance and support. A lack of confidence in the tutor's ability produced a lack of effort from the pupils, therefore the results were poor.

Secondary/

Individual: Science/Textiles. A study of natural and synthetic textiles in all aspects. It was never made clear what was necessary or expected. I was very uninterested in the subject matter.

Secondary/

Individual: English Literature. Translation of Chaucer's 'Knight's Tale' into modern English.

Secondary/

Individual: A level Geography. Study of River Brent. Unsuccessful - I found Geography boring. The project that I produced was the same as those produced by everybody else in the class. The instructions for the project were not very clear. I didn't feel I learnt anything, or that the project would be of use to me. In doing the research (outside) I caught 'flu!

Secondary/

Individual: Geography. The project that stands out as the worst was a project on Nigeria. It was unsuccessful because I did not have enough interest in researching around the country and reading up about it. I was more interested in merely sticking a few photos on my final sheet than in any verbal information. This was personally unsatisfying mainly because I did not reach the requirements of the teacher.

Secondary/

Individual: O level English. Strict deadline, very wide choice of subject matter, very few guidelines on how to go about researching - almost entirely written work.

Secondary/

Individual: O level History. Project on World War 1. Uninteresting subject, research involved reading only, and thus was a report and offered no possibility for creative flair.

Secondary/

Individual: Biology. This wasn't a good project as no actual brief was given, and there was no actual end result. It was very laboured as it had to be done a certain way, just in writing mostly, and became a task. You couldn't use the project in the way you wanted. This was just accumulating information at the end of a course.

Secondary/

Individual: A level Design. The design and construction of a desk. The drawings were poor, the design was ugly, the construction

rough, and yet it took a helluva long time to make! What is worse is that the examiners quite liked it !

Secondary/
Individual:

A level Geography. Its necessity as part of A level annoyed me. Heavy use of mathematical and statistical analysis was necessary. Problems that had to be solved were uninteresting, unlike the rest of the course. Restrictive. Questionnaire good idea but manipulated answers to it in order to solve problem.

Secondary/
Individual:

A level Design Technology. Design a multi-purpose saw. Look into types of saws on market. Design a number of solutions. Choose one and develop it into a finished article. We were told exactly what to do. There was no chance of doing what I wished. Because there was no choice, I had no interest in it and I became very bored.

Secondary/
Individual:

Textiles and Fashion. The first project in my Textiles year - because I was inexperienced and didn't know how to apply the techniques to the project I was set - was disastrous.

Secondary/
Individual:

Religious Education. Doing a project on the Salvation Army. It was a boring subject, there was little information to be found, not that I tried very hard to find any.

Secondary/
Individual:

O level German. A project on Germany. I didn't like the teacher, who gave a very vague idea of what was wanted. I drew some maps copied out of a book with a bit of writing and didn't actually complete it. No comment was made about this, and it was never marked or looked at.

Secondary/
Group

: Computing. Project on computers. It was compulsory. I disliked the teacher intensely, it was put over in a very boring way, we were talked to totally as a group and there was no individual involvement.

Secondary/
Group

: Geography. Study of agricultural land use and machinery in Lancashire, involving interviews and the use of secondary data. The primary sources were difficult to obtain and unfriendly, while the secondary sources were rather boring and monotonous, culminating in an uninspiring investigation that left one cold.

Secondary/
Group

: History. The Dark ages. Lack of interest, inadequate information, rewriting/summarising without understanding.

Secondary/
Group

: Design. The only project which I can remember that went so badly for me was a group project and I just did not get involved with any kind of research. It was something to do with metalwork.

Secondary/
Group

: Design and Technology. The project was to design something that you would use in the home. I designed a video cabinet for VHS videos. I had a lot of trouble in doing the project - eg. wasn't allowed to use the workshop very much, inadequate equipment. I was hindered by bad teachers. Also the teachers did not really understand the syllabus very well. There were too many students for the size of workshops at school, eg, hard to move around, to get materials. Limited materials to work with. The teachers did not make the project fun. Each project was too long.

Secondary/
Group

: A level Geography. Finding which direction the ice came from in South Wales during the Ice Age. Spent all morning looking at stones on a cliff face. No direction was evident, yet teachers assured us that it was.

Secondary/
Group

: General Studies. Computing project as part of General Studies programme in the Lower Sixth. This consisted of an introductory 'course' of projects on the machines, taught by a teacher who had no idea how to use them. In fact, the students had a better idea than he did. The project was one of a choice of 6 and was aimed at the beginner, but half the people who did the course already knew how to use the machines and used it for extra time in the computer room for their own purposes.

Secondary/
Group

: Sociology. A group project which involved participant observation, making charts and working out percentages. The project went on too long and it became very boring and unstimulating. The group was not really interested and we really did not make much effort to do a good project.

Secondary/
Group

: Textiles. Exam project. Batik + repeat pattern. I couldn't find any motivation and the project was horrible.

Secondary/
Group

: Geography. A researched, added-to, write-up of a field trip at a Further Education College. A group spent 5 days in Wales, studying Geography on a field work basis. Field work was set by staff, but we worked from pre-written handouts with staff supervision, but with very little staff help. Books and handouts were supposed to supply information which would have been much better explained on the spot by staff. After the trip we were to produce a Field Book - written accounts and

illustrations explaining a set of hypotheses put forward by the staff. The hardest thing was to summarise group work individually.

COMMENTS

Primary/
Secondary/

Individual: Usually, when I was at primary school or early secondary, and I had no choice of subject matter or methods - the whole thing was closely instructed by teachers and tedious and boring - although later I'd learn to enjoy that sort of thing more. eg. Science projects. Most projects throughout school I have enjoyed and I think I owe that to the large amount of project work I did in my primary school - very good basis and foundation for later project work.

Secondary/

Individual: Art/History. (I haven't done any bad projects really, always worked in groups, allowing for individual creativity which contributed to the overall success of a project. We always helped and learned from each other. These were art-type projects.) Academic ones, ie. History, always were satisfying since they tested one's own diagnosis of an event. It wasn't a bad project since it was learnt and discussed in the group. We were expected to contribute as individuals to the project as a whole, producing essays and illustrations which everyone would read and discuss. Altogether a good project, although not as satisfactory as the others.

Individual: It is up to the individual involved to make the effort. That is an integral part of the basics of the project.

1986-7 : WORST PROJECTS

Primary/

Individual: English. A project based on Samuel Pepys 'Great Fire of London' at the age of 9/10. It was mainly writing and describing the details of the fire and giving reasons whether or not it may have been a blessing.

Primary/

Individual: Own Choice. This was weekly, with a continual mark, on written work. This continued throughout the year, was rather monotonous, even though it was your own choice. Rather too much pressure on the academic side.

Primary/

Individual: History. To do a whole project on 'The Spinning Jenny' - lack of material - boring.

Primary/

Individual Car factories. The whole class did the same subject - no choice. We used the same books, made the same drawings. After initial ideas, it got too complicated. We were expected to write about unions! - and there wasn't a book about unions in the school library.

Primary/

Group : History. Fire of London. Boring, just a few drawings but mostly writing about what had happened.

Primary/

Group : History. Barnes. Project on where I lived, Barnes. Looked at the history, it was really boring (not because I don't like history but the way we found out the information was tedious). I never totally finished this project.

Secondary/

Individual: Oil Industry. Too many objectives in too short a time. Imprecise brief. Lack of enthusiasm, lack of insight by the tutor into possible interesting areas of that topic. Too much detailed text readily available on the subject - no personal research required. I copied out/transposed into my own words large tracts of text. Very good mark - learnt nothing.

Secondary/

Individual: Biology. This was a project investigating any ecosystem

and animal) etc. This was spread over a period of about 4 weeks, visiting the ecosystem and recording figures, progress, etc. It was unsatisfactory because of a general apathy during a summer holiday - though the final results were of some interest.

Secondary/

Individual: Geography. Projects at A level which basically meant teach yourself the syllabus, which I found tedious and unnecessary, seeing that we could only take our facts from text books, and we would have these books for the exam, so I saw no reason for re-writing their contents and preferred simply to read them and produce nothing.

Secondary/

Individual: History. History projects were mostly all boring - Bismark and the German Empire. Boring learning about the subject. It didn't encourage you to be creative.

Secondary/

Individual: Biology. O level Biology pond project - in my own time therefore I did no work - lack of interest in the subject - practical difficulties which called for effort.

Secondary/

Individual: Biology : Pollution. Pollution in air/water/land. Teacher asked for a lot of study. Project based on statistics and incidents and chemistry which bored me silly. Content more important than anything else. I found the subject boring.

Secondary/

Individual: Art A level, Ceramics project. The idea was a flop - the whole thing was a flop and I got a bad mark.

Secondary/

Individual: French. French literature project - research and write about Moliere and other French writers. Unable to understand - lack of interest - teacher was uninspiring, eventual lack of care.

Secondary/

Individual: Science. Chemistry projects early on in secondary school. I probably disliked them because I really found Chemistry (and all Sciences) difficult. It was very frustrating not being able to achieve anything when everyone around me seemed to have understood what to do. The fact that I seemed to be the only one who was confused made it worse as I had no one else in the same position as me.

Secondary/

Individual: A level Archaeology. Subject - Mycensean Greece. Reason for failure - a grant existed for travel to the area of research and so the project was really an excuse for a holiday with my mate. I wasn't interested in the subject, left the work to the last minute and didn't think what I was going to write about till months after we came back, armed only with a sheaf of irrelevant photocopies.

Secondary/

Individual: Electronics. The aim was to design electronic circuits. Unclear of what was required - too vague. Knowledge of means available and equipment was lacking. Final deadline date was too vague. Not enough guidance on course development and also scope for design was too extreme.

Secondary/

Individual: Physics/Chemistry. Most physics and chemistry projects even set at O level standard. Lack of interest in the subjects and failure to understand what good to me they could ever be.

Secondary/

Individual: Music. Project was to write about each period of music history and produce a title page for each. The title page was enjoyable because the design was left up to you but the rest was thoroughly boring because no one knew anything about the sections and no one was quite sure what to expect.

Secondary/

Individual: Art. It was one project in art done six months ago. It cost me a lot of pain and depression. In my opinion it was the worst art project I've ever done. I've used the wrong colours, the wrong interpretation of the theme and my teacher disliked it at the most. I won't say that I hated it, because in a way it pleased me, but when I was told that I wouldn't be able to pass my Art A level exams if I did something like this, I started hating it.

Secondary/

Individual; The project had no defined limits which didn't bother me too much but we were given one word as a title and had to write anything and everything about that title which we could find. I found it very vague and got bored quickly.

Secondary/

Individual: German O level. A project on a town in Germany. It was so unoriginal, it didn't stimulate the mind. It was virtually impossible to become imaginative with this subject.

Secondary/

Individual: Biology. The least personally satisfying was an O level project. We were told to give examples of 3 fish, 3 mammals, etc, and to write about how they feed, reproduce, move, etc. It was all copying out of books and I didn't remember or learn anything from doing it. It was all facts and it was boring. We got marks for how well we had drawn birds which was ridiculous.

Secondary/

Individual: History. At middle school we had to do a project on 'Communications'. I didn't enjoy it because we weren't told clearly what to do and the information was not readily available at school. We had to research all the work at home and not many of us had appropriate books. Also no opportunity to visit a library - a real chore.

Secondary/

Group : Drama. Drama projects where no brief was given - ie. there was no teacher or person to whom we were answerable or of whom we could ask questions. Part of the project was to decide upon a director and a play or script. We had also to find a cast, costumes, etc, etc. Although established as a group project, it didn't really work as people 11-18 were involved and levels of enthusiasm varied. Also people didn't really know each other and were not formally introduced. However, once we had rehearsed for 2-3 weeks, things did start to come together and the final performance was very enjoyable (although no feelings like that were experienced during rehearsals). Afterwards a feeling of relief but also that the whole thing was worth while. Have done two projects like this - both inter-school competitions with no prize at stake, except pride.

Secondary/

Group : Geography. Survey of Richmond Park and why people use it. Used boring questions and had to count traffic. Obvious results. Had no advice from teachers, just left to it. Unexciting subject, park was thought suitable by teacher because it was up the road from the school. No enthusiasm from teacher. Results of project were not put to any use or discussed properly.

Secondary/

Group : Science. I did a project a few years back with a friend on sheep's brains. We had a good time with the dissection and learning a few things about the sheep, but when it came to presenting it to the class, all the parts on display were mixed up and rather smelly. Above all, there was a brain surgeon present at that meeting who could only laugh at our work because it was so inaccurate. We actually spent about 50 hours on it, all gone to waste.

Secondary/

Group : Physics. A project on nuclear power done when I was about 14. I did it with another person who was not enthusiastic and I found myself doing all the research into a subject I was not interested in. We were not allowed any help from the teacher and work had to be done in class - so no personal research, writing, drawings, etc, could be done at home. As we were not allowed to choose our subjects, I was not interested to begin with.

Secondary/

Group : Market Research. Although meeting interesting people, asking questions about the design of a cereal packet was somewhat tedious. No doubt this was necessary but I was not interested.

Secondary/

Group : Conference on Industry in schools. As a group, we were asked with building blocks to design and build a bridge (scale model). As we were left to our own devices, the whole method of design was undemocratic and only the strongest characters influenced anything, but they didn't know anything about it. Thus there was tension and disagreement and the final product was rubbish, so there was no sense of achievement or pride at all.

Secondary/

Group : Woodwork. I had to design and build a set of kitchen table and chairs. The table fell in half and the legs fell off the chairs. It was a group project and everyone made the chairs differently, not by the set design.

Secondary/

Group : Music. Practical music project with poor initial instruction and supervision whilst it progressed - had very discouraging effect when subsequently assessed, discouraging me from taking the subject for O level.

Secondary/

Group : Geography field trip. We went to Milton Keynes for one day, were given leaflets on how it was constructed as a new town - there was data and statistics already collected on influencing social factors. For the project we had to write out the leaflets - there was little other published information about Milton Keynes. It was not a project, just a re-writing of notes. No brief, no order, no discovery, not enough practical study.

Secondary/

Group : Geography. Village study in North Wales. Count how many churches, specific shops, schools, etc, there were. How the village was formed and shaped. Why shaped like that, etc. No one found it very exciting. It rained all day.

We did not achieve very much. Makes you despise the area you are in - ie. North Wales.

Secondary/

Group : Combined Studies. A project on government and how it affects education. A group of us had to do some research into this project. We all hated the teacher that set it, hated politics, hated the thought of talking about schools. None of us got enthusiastic therefore no one did any work. On the day we had to hand it in, none of us turned up for the lesson. I didn't even know half the people in the group. It was a complete waste of time.

Secondary/

Group : Many have been particularly awful, probably due to -

- 1.lack of interest at start
- 2.vague plan or instruction given at start - contradictory 'aims' given
- 3.Too broad a topic therefore unable to go into enough depth to make it interesting - just regurgitation of known facts.
4. lack of interest of teacher in finished project - only in the fact that it is done.
- 5.Quite often lack of criticism of the finished project as 'it is a personal thing' - usually just asked 'did you get anything from this?'. Criticism usually only on amount of work done.

Secondary/

Group : The brief was to compile a number of recipes together and present them attractively. Unsuccessful because the research was rushed. the recipes were not very exciting, and because of a lack in organisation, especially in time, the presentation was rough and unappealing. It was far from personally satisfying for although I liked the idea when illustrating it, I had not put my full effort into it, primarily due to lack of organisation. Organisation of a project I feel should be discussed in any brief.

Secondary/

Group : The most un-enjoyable project is the variety where you are given numerous pictureless textbooks and given a title or statement to work from. You don't have time to think or draw to explain. You just summarise what is in the textbook.

Secondary/

Group : Can't think of an example, but projects where there was no room for illustration, where a lot of reading research was required.

F

SESSION 2

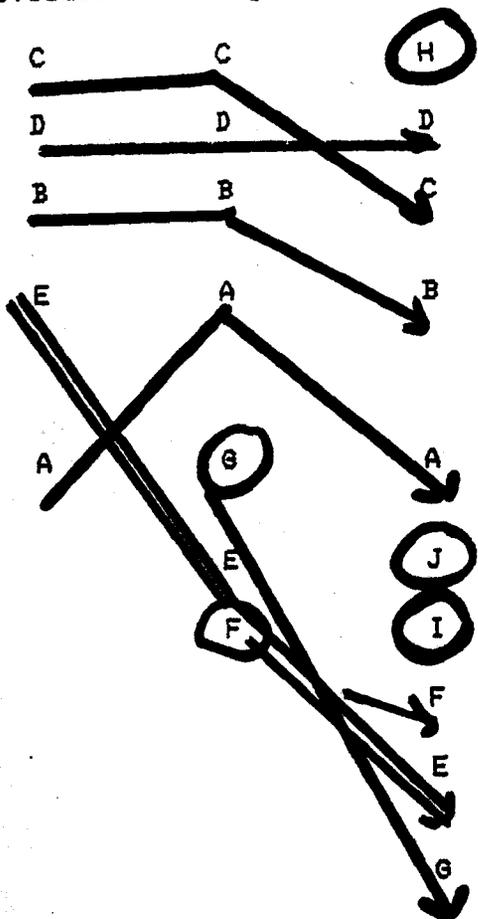
Individual Records
Degree of Stability vs Change

Name Michael Atford

No. 14

Year 82-83

Individual Small group Plenary



Element

Category

The group (discussion, etc)

A2 A2b

The crit

B1h

Having a tutor available for discussion at all times

A3e

Handling and practising with materials, i.e. understanding materials by a process of trial and experimentation

C1b
C1f

Being shown previous students' work

A2a

Working to a deadline

B1g

Working environment

C4b

Structured brief

B1

Having time allowed to research from books etc.

B2h C2b

Seeing what other members of the group did

A2a

Having materials, etc., demonstrated and explained

A3b C1c

Learning what not to do by completely ruining a piece of work

B2e

Items for Comment

Stability : Change

C	2
D	0
B	1
E	5
A	121

SESSION 2

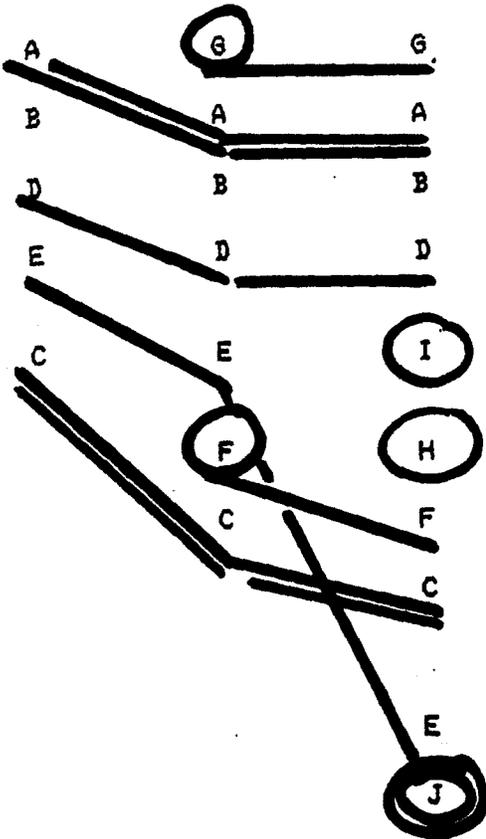
Individual Records
Degree of Stability vs Change

Name Carolle Blackwell

No. 9

Year 82-83

Individual Small group Plenary



Element

Category

Motivation/desire to learn **A1e**

By doing it **C1f B2c**

(Missing)

Sharing in learning process with fellow students **A2a, A2b, A2c**

Feel rapport with tutor, like or dislike. **A3c A3d**

Physical environment **E4a C4b**

Flexibility **B2a B2b B2c**

Looking at other peoples work. The content. Through slides books, exhibitions **A2a, C2a, C2b**

Verbal directions **B1a**

Feedback **A3c B1e B1h**

Items for Comment

Stability : Change

1.	A	1
2.	B	1
3.	D	1
4.	E	5
5.	C	3

SESSION 2

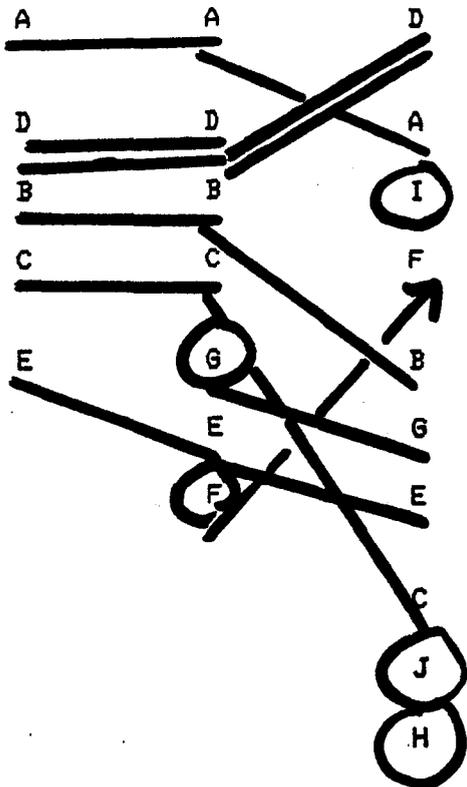
Individual Records
Degree of Stability vs Change

Name Kim Burt

No. 22

Year 82-83

Individual Small group Plenary



Element

Category

External stimulation
(observation)

A2a C2a

Visual research

C2a C2b C2c C2f
C2g

Attitude - motivation

A1e

Other people's (in group)
influence (co-operative help)

A2c A2b

Experimentation

B2e

Criticism

B1e B1h

Guidance by tutor (teaching
by example)

A3c A3a A3b

Practice

B2e

End product

B1f

Physical working environment

C4a
C4b

Items for Comment

Stability : Change

1.	A	0
2.	D	1
3.	B	2
4.	C	4
5.	E	2

SESSION 2

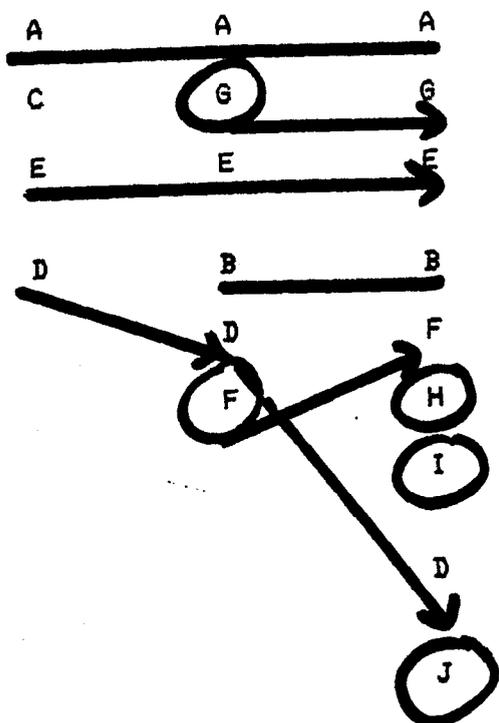
Individual Records
Degree of Stability vs Change

Name Richard Chamberlain

No. 19

Year 82-83

Individual Small group Plenary



Element

Category

Self-discovery (expression)

A1d A1b

Criticism

B1c B1h

Understanding of aims. (End product)

B1a B1b
B1f

Tuition

A3a A3b A3c

The group

A2a A2b A2c A2f

Physical environment

C4a C4b

Co-operative rather than competitive conditions

A2c

Having to do something (even if not enjoyable)

B6g

Knowing that you will have the opportunity to improve

B2e

Items for Comment

Stability : Change

1.	A	0
2.	C	1
3.	B	1
4.	E	1
5.	D	4

SESSION 2

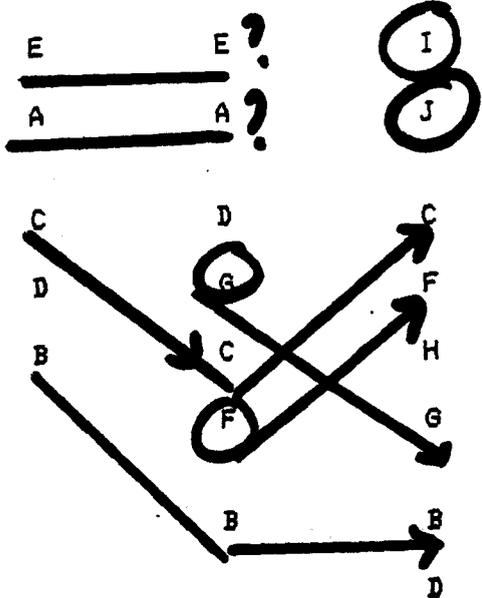
Individual Records
Degree of Stability vs Change

Name Lyn Davey

No. 11

Year 82-83

Individual Small group Plenary



Element

Category

Good working environment

~~A2h~~ C4b

Informal environment to learn in

A2h

Sharing other people's ideas

A2c

Good rapport with tutors

A3d

Self-motivation

A1e

Having to work with limited materials

B1d

Reference to library

C3c. C2b

Experimenting either through machinery or in drawing/painting

B2e C3a

Lots of drawings of ideas

B2e

Practice, practice

B2e

Items for Comment

Stability : Change

1.	E	N/A
2.	A	N/A
3.	C	0
4.	D	4
5.	B	2

SESSION 2

Individual Records
Degree of Stability vs Change

Name Naomi Ann Davies

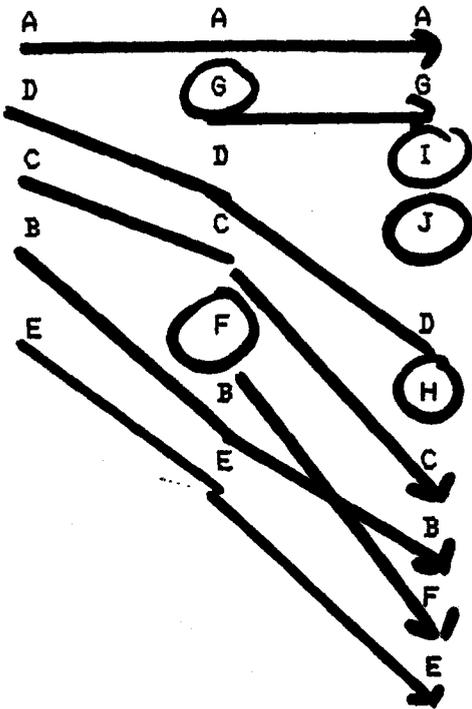
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Year 82-83

Individual Small group Plenary

Element

Category



Practice

B2c

Being criticised

B1e B1h

Environment

C4a C4b

Co-operativeness of group,
discussing with group

A2c A2b

Experimentation

B2e

Motivation

A1e

Being told

A3a A3c A3f

Being shown

A3a A3b

Watching other students

A2a

Reading up

C2b

Items for Comment

Stability : Change

1.	A	0
2.	D	3
3.	C	4
4.	B	5
5.	E	5

SESSION 2

Individual Records
Degree of Stability vs Change

Name Erik Dinandt

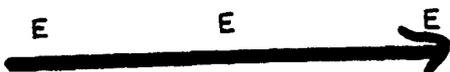
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Year 82-83

Individual Small group Plenary

Element

Category



Listening to what your tutors say especially Tony H. and also what other members of the class have to say

A3a
A2b



Working together so that one can relate a project to someone else's. Helpful to see how other people's thinking develops. the group

A2a
A2c
A2d

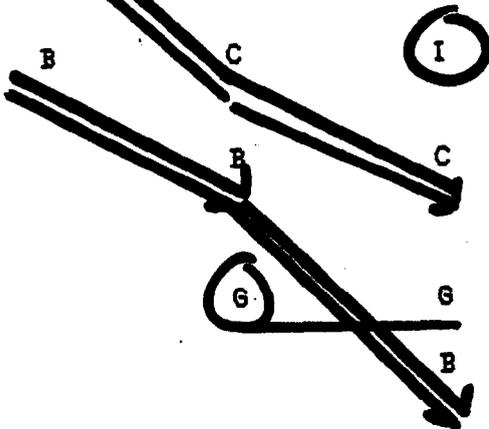


Criticism from tutors and students

B1c B1h

Learning visually by looking at slides and books. Visiting museums could also be put into this category

C2b C2a



Feeling that there is room for development and growth

A1b A1g

Projects help me to discover new fields of which I was previously ignorant

B1h C1c

Physical environment

C4a C4b

Exact briefs, I find, help me work more productively since I soon lose any sense of direction if I am not tied down. Motivation.

B1a B1d
B1b A1e



End product

B1f



Competition among students

A2e

Items for Comment

Name Erik Dinandt

(Cont.)

Stability : Change

1.	E	0
2.	D	1
3.	A	1
4.	C	2
5.	B	3

SESSION 2

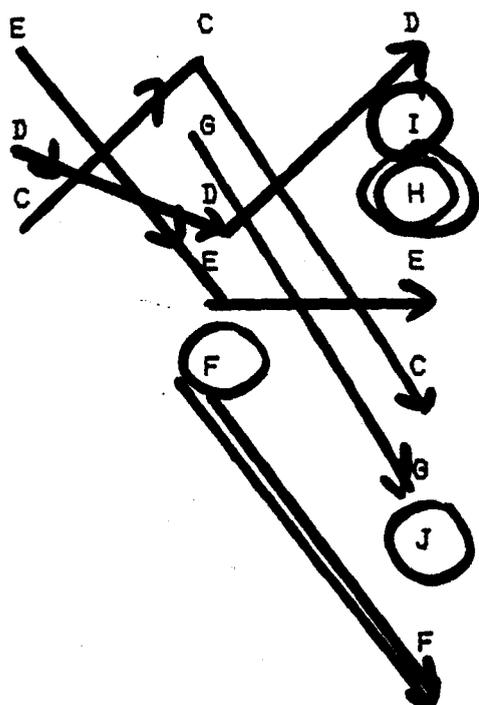
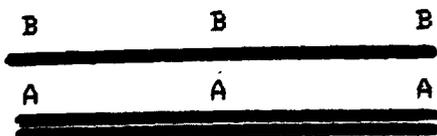
Individual Records
Degree of Stability vs Change

Name Jessica Dunn

No. 26

Year 82-83

Individual Small group Plenary



Element

Category

Practice and experimentation

B2e

Learning from my own mistakes

B2e A1g A1f

Discussing my work with tutors and other students

A2b A3a A3c A3d

Room for personal improvement

A1b

Informal physical environment

A2h C4b

Being left to work out a project on my own sometimes

A1f

Comparing my own work with others

A2a

Missing

Informal rather than formal lecturing

A3a A3d

Tutor showing slides, etc. lecturing

A3b C2b

Items for Comment

Stability : Change

1.	B	0
2.	A	0
3.	E	3
4.	D	131
5.	C	161

SESSION 2

Individual Records
Degree of Stability vs Change

Name Darryl English

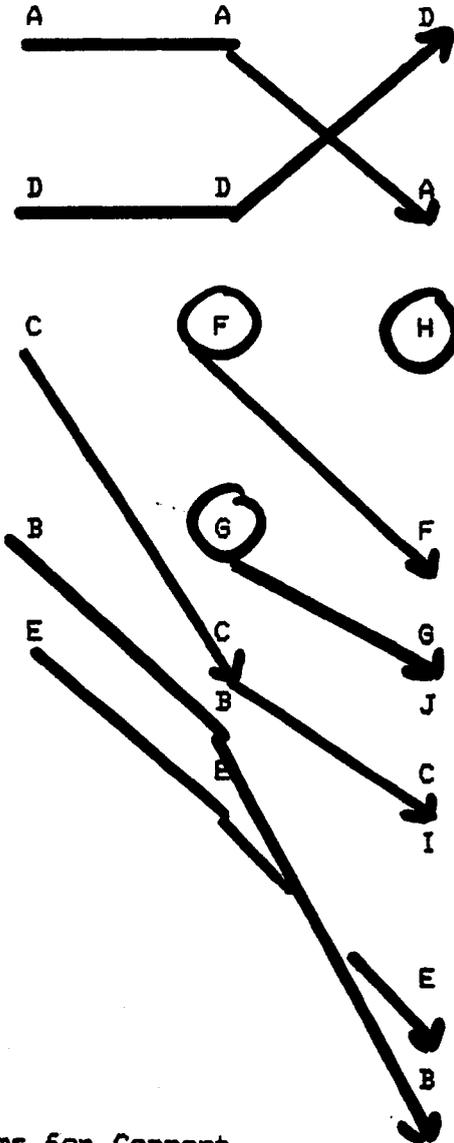
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Year 82-83

Individual Small group Plenary

Element

Category



Constantly being told to consider everything we do, e.g. why we are here why do we make the marks

A1g A3a

Being left alone to sort out projects, to struggle rather than being told

A1f A1c

No defined answer. No right or wrong. Projects are taken over by individual personality and continue to be developed long after the project has finished

B2a B2b

Environment. The atmosphere of working space.

C4a C4b

Criticism

B1e B1h

People in group

A2f A2b A2c

Looking at other artists' work

E2a

The tutor's experience and teaching whether you like the tutor or not

A3a A3b

Group discussion at various points during projects

A2b

Given homework to carry on ideas during the weekend

B2h

Items for Comment

Stability : Change

1.	A	1
2.	D	1
3.	C	4
4.	B	6
5.	E	5

SESSION 2

Individual Records
Degree of Stability vs Change

Name Colin Gale

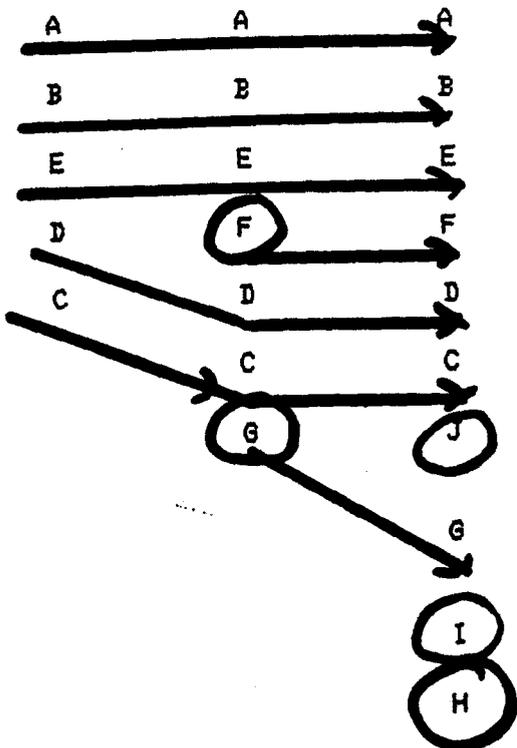
No. 21

Year 82-83

Individual Small group Plenary

Element

Category



Own experimentation

B2e

Practice

B2e

Learning from mistakes

B2e

Criticism

B1e B1h

Talking over work with others

A2b

Looking at others work

A2a

The group getting motivation from others

A2c A2d

Being left alone - to sort out your own problem

A1f

Physical environment

C4a C4b

Project structure, brief

B1a B1b
B1c

Items for Comment

Stability : Change

1.	A	0
2.	B	0
3.	E	0
4.	D	1
5.	C	1

SESSION 2

Individual Records
Degree of Stability vs Change

Name Tanva Gill

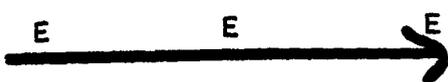
No. 29

Year 82-83

Individual Small group Plenary

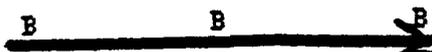
Element

Category



Being determined and positive in what you are setting out to do

A1c A1e



Understanding the project

B1a B1b B1c



Project structure, end product to be criticised by tutor and group

B1d B1f
B1e B1h



Environment and atmosphere of group

A2h A2b



Getting lots of ideas so you can be selective about choosing the final one

B2e



Getting force of energy from others working intently

A2a A2h



Listening to advice and help from tutors throughout project

A3c A3d



Time set aside to pursue your work

B2h B2d



Careful observation of tone, colour, contrast, shapes between objects, texture, detail, etc. (drawing what you see not what you already know about those objects or person)

C2g

J

Should be able to choose when to work - more relaxed work schedule

B2d

Items for Comment

(Cont.)

Name Tanya Gill

Stability : Change

1.	E	0
2.	B	0
3.	A	6
4.	D	1
5.	C	2

SESSION 2

Individual Records
Degree of Stability vs Change

Name Alison Groom

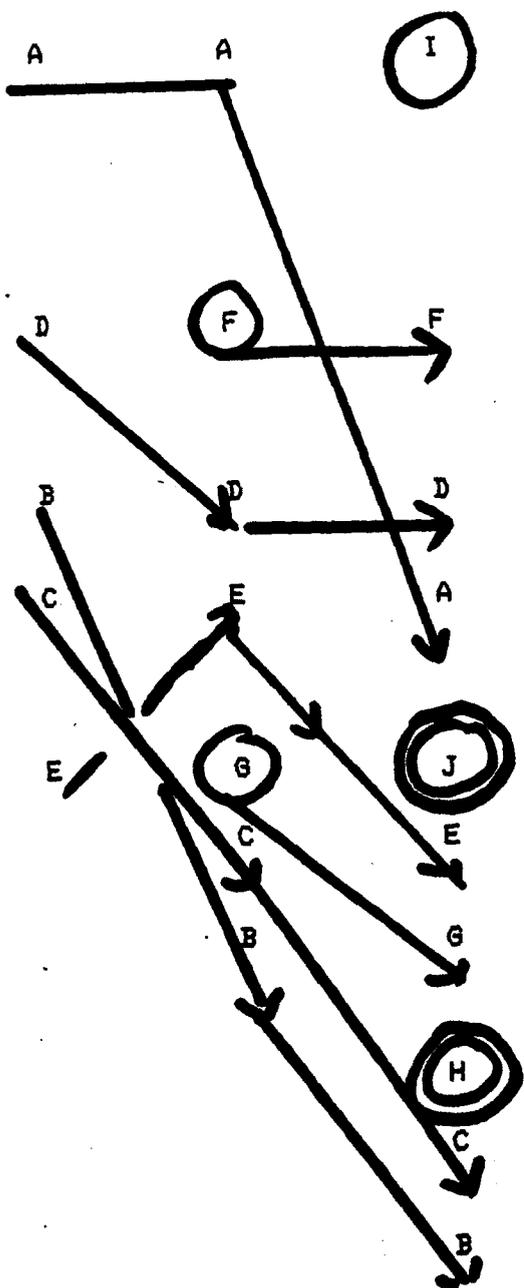
No. 2

Year 82-83

Individual Small group Plenary

Element

Category



Very structured project helps as it gives motivation to finish each stage and go on to next. Can't make another move until previous day's work is done. Need those ideas to go on to next day

B1a
B1b
B1c
B1d

Group discussion at end hearing other people's difficulties. Seeing failures and triumphs of whole group.

A2a A2b
A2c A2d

Own research for designs, looking anywhere

C2a C2b
C2e C2f

Research in library looking at pictures of surface designs to discover different networks and copy

C2b C3c

Having a tutor to help, if needed

A3c A3a

Learning from the other people in your own group

A2b A2c

Shown how to do various techniques, i.e. in drawing and painting.

A3b C1c

Working conditions - environment

A2h C4a
C4b

Tutor drew different networks on blackboard

A3a A3b

Looking at other students work who had previously done the project

A2a

Items for Comment

Name Alison Groom

(Cont.)

Stability : Change

1.	A	3
2.	D	1
3.	B	7
4.	C	2
5.	E	131

SESSION 2

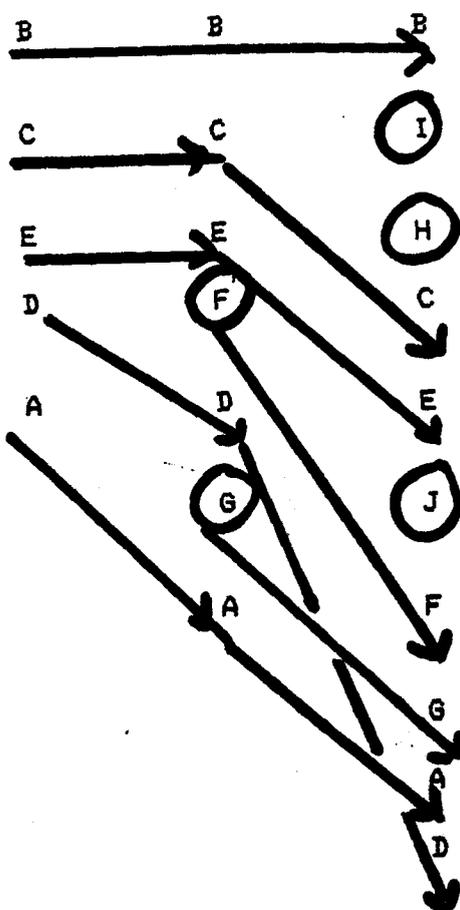
Individual Records
Degree of Stability vs Change

Name Flavia Hewett

No. 15

Year 82-83

Individual Small group Plenary



Element

Category

Experimenting with methods, tools, machines

*C2a C3b C1c
B2c C1F*

Working to a deadline, within limitations

B1g B1d

Physical environment

C1a C1b

Gaining impetus from group working around you

*A2a A2c
A2d*

Making rough models, sketches, quick ideas

B2e

Project ends in crit with group discussion

B1h

Using/working from tutors' ideas or suggestions

A3a A3c

Practising techniques

C1b C1c C1F

Looking through books

C2b, C2c, C3c

Having to work with limited materials

B1d

Items for Comment

	Stability	Change
1.	B	0
2.	C	2
3.	E	2
4.	D	6
5.	A	4

SESSION 2

Individual Records
Degree of Stability vs Change

Name Kirsten Marshall

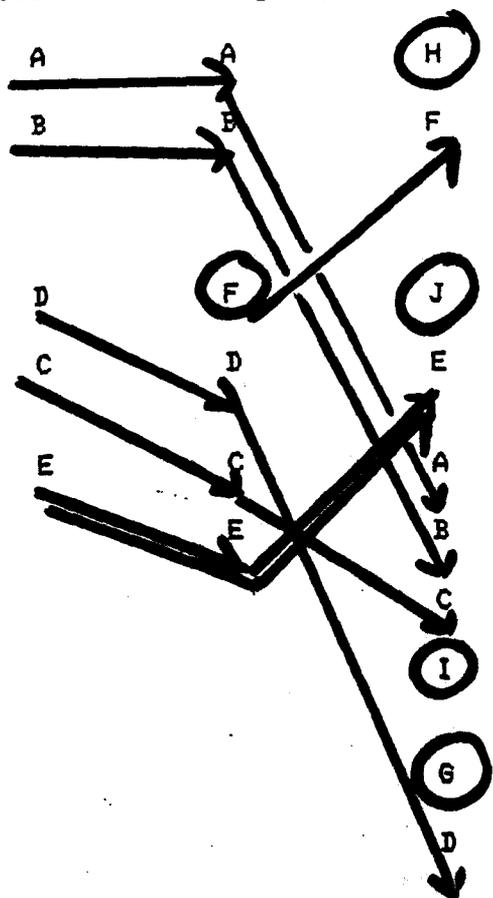
No. 18

Year 82-83

Individual Small group Plenary

Element

Category



Self improvement **A1b, A1q, A1f**

Learning to get on on your own unless it is a group project where communication is very important **A1f, A2b, A2c**

Analysis from tutor at end **B1h**

Better communication between tutor and student **A3c, A3d, B2e**

Research magazines and books **C2b, C3c**

Physical environment **C4a, C4b**

Working in a group **A2a, A2b, A2c**

Knowing that tutor is available when wanted **A3c, A3d**

Co-operation **A2c**

Enough time inside classroom as well as outside **B2d, B2h**

Items for Comment

Stability : Change

1.	A	4
2.	B	4
3.	D	7
4.	C	3
5.	E	131

SESSION 2

Individual Records
Degree of Stability vs Change

Name Jonathan Minshull

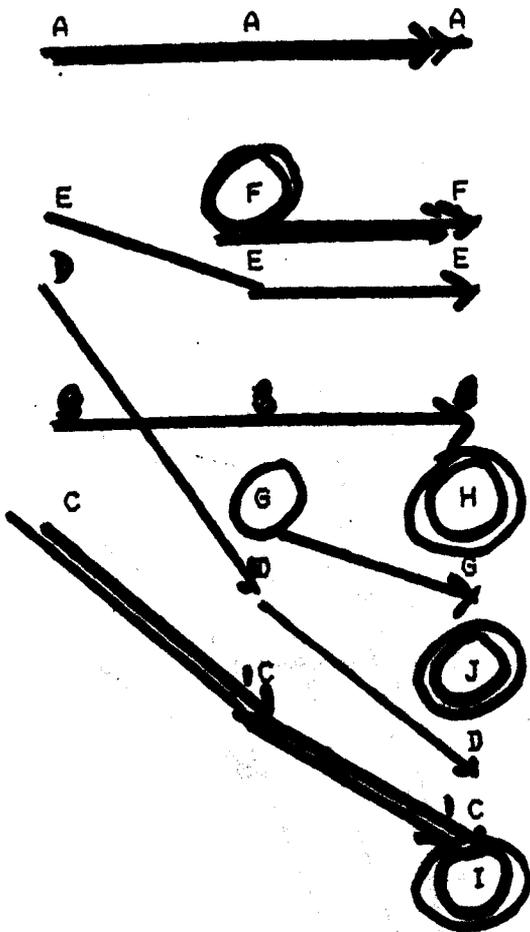
No. 13

Year 82-83

Individual Small group Plenary

Element

Category



Experience - the doing of something even if you don't exactly understand why. i.e. learn from your results.

B2e B1k A1f

Criticism of own work done

B1e B1h A3a

Seeing ideas of a group - developing own ideas from group stimulus - co-operation

A2a A2b
A2c

Explanation of objectives/purpose by a tutor

B1a B1b
B1c

Environment - relaxed and informal

A2h C4a C4b

Learning from external sources, e.g. books, museums, slides, etc.

C2a E2b
C3e

Having an end product

E1e B1f

Personal research

E2c E2d C2g E2h

Being shown physically/manually

A3b E1b

Broaden ideas, open new fields, etc.

B1k
C2g

Items for Comment

Stability : Change

1.	A	0
2.	E	1
3.	B	1
4.	D	4
5.	C	4

SESSION 2

Individual Records
Degree of Stability vs Change

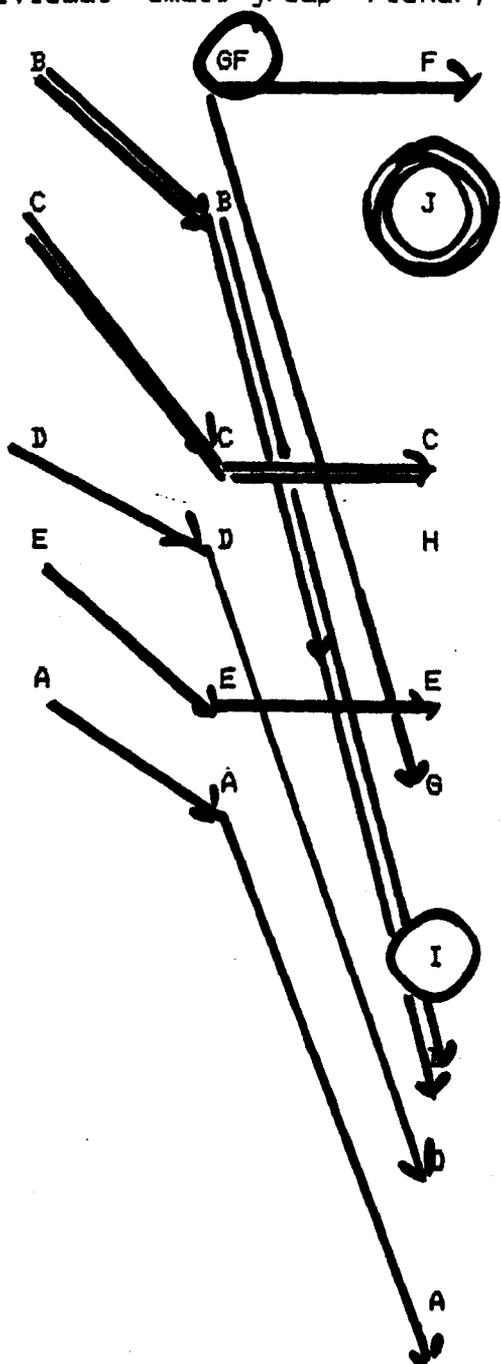
Name John Morris

No. 28 Year 82-83

Individual Small group Plenary

Element

Category



Switching either on or off as soon as one has decided if one likes project X

A1a1

The competitive and personal improvement factor. One will work hard at X if one sees benefits, new experiences, or a new thing that one could specialise in, or if one sees an end product

A1b A2a
A1d A2d
B1f C1e

Use of examples (how other people in the past had tackled X)

A2a E2a

Discussion of work within the group, especially people one respects as equals or peers

A2b A2c

Criticism of what I had actually done on paper

B1e B1h

Being able to read a summary of the project, to collect thoughts before actually tackling it..... the written brief

B1a B1b
B1c

Physical environment (condemn Portland Road annexe)

C1a C1b

Explanation (verbal) of how to do things

A3a E1c

Actual attempt at X, after understanding the explanations. Doing is interesting in itself.

B2e
C1b

Revision of what I had been taught about X in the past

B2e

Items for Comment

Name John Morris.

(Cont.)

Stability : Change

1.	B	7
2.	C	1
3.	D	7
4.	E	1
5.	A	6

SESSION 2

Individual Records
Degree of Stability vs Change

Name N.J. Mullin

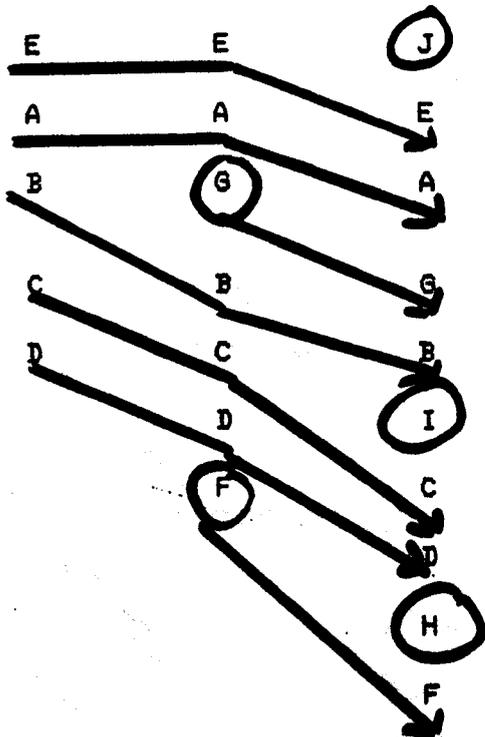
No. 20

Year 82-83

Individual Small group Plenary

Element

Category



Individual motivation A1e
 Talking about project A2b A3c A2c
 Structured time as opposed to working at one's own pace B1q
 Looking at the work of others A2a
 Constant criticism A3a B1e B1h
 Independent research C2h C2b
 Previous experience A1j
 Practice and application B2e A1c
 Physical environment C4a C4b
 Own experimentation B2e

Items for Comment

Stability : Change

1.	E	1
2.	A	1
3.	B	2
4.	C	3
5.	D	3

SESSION 2

Individual Records
Degree of Stability vs Change

Name B.G. Mytton

No. 17

Year 82-83

Individual Small group Plenary

Element

Category

A A A

Wanting to learn **Alai**

B B B

Time set aside to pursue (helps intensity), saves distraction, i.e., structure.

B2a B2d

C F F

Understanding the project or rather understanding what it is you want to do.

B1a B1b

D C C

Effort in inject ideas in ones brain - sounding board i.e. (someone else) teacher or other artists.

A2b A3c

C2a

A3e A3f

E D (G)

Materials

C1a E1d

Learning what avails from working in a sustained manner.

B2e B2h

E H

Depending on how intrinsic work is, some kind of input from without. This will usually come from information stored in the brain, i.e. observation.

A2a

C2g

D

Getting force of energy from others working intently. The group.

A2a A2d A2f A2h

E

Your own psychology do you get on in a project structure? Does it affect your individuality? Could it diminish your personal resources, or will it stimulate?

A1b A1c

(I)

Name B.G.Mytton (Cont)

Stability : Change

1.	A	0
2.	B	0
3.	C	1
4.	D	3
5.	E	3

SESSION 2

Individual Records
Degree of Stability vs Change

Name Helen Pavel

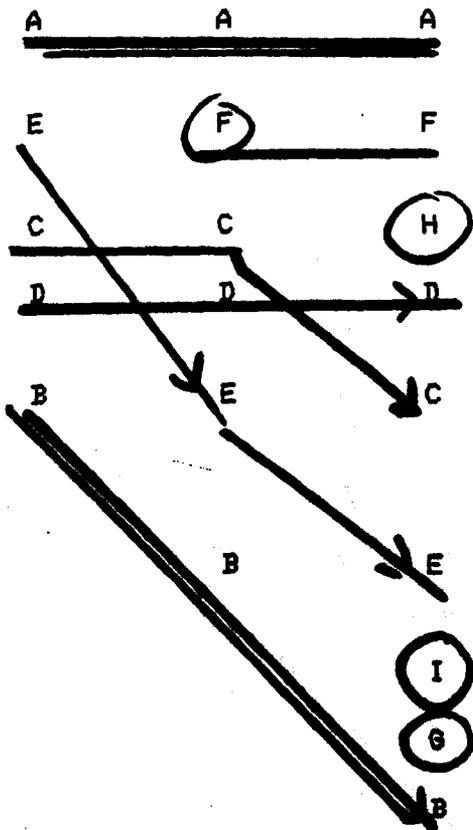
No. 16

Year 82-83

Individual Small group Plenary

Element

Category



Practice, trial and error, development, ideas

B2e A1q

Scribbling notes, drawings, sketches

B2e

Crit system

B1e B1h

Discussions with tutor, informal questioning

A3a A3c

Discussions with others in group and observing how they tackle the same problem. Working in a group

A2a A2b

Doing relevant work stemming from project

B2b B2d B2e

Co-operation in group

A2c

Physical environment

C4a C4b

One has something concrete to fix on (an idea) as a starting point and then one has to bend one's mind round it - learning to think

B2a B2b
A1q A1f

Items for Comment

	Stability	Change
1.	A	0
2.	E	4
3.	C	2
4.	D	0
5.	B	4

SESSION 2

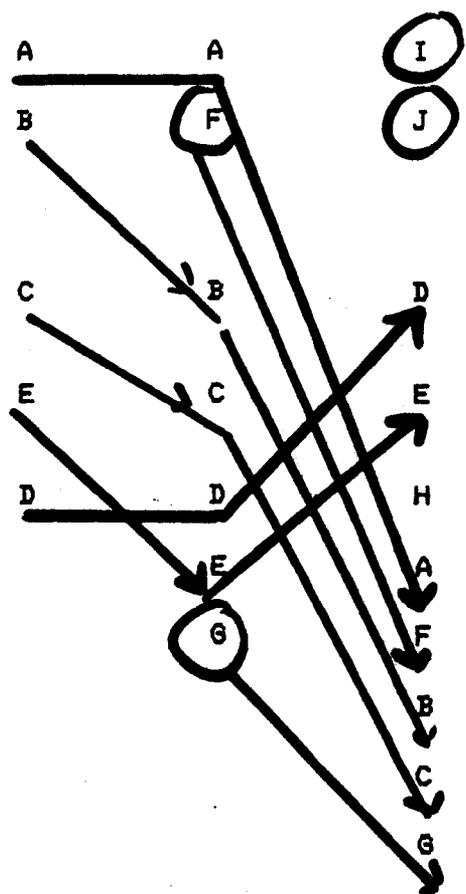
Individual Records
Degree of Stability vs Change

Name Amanda Ribbans

No. 6

Year 82-83

Individual Small group Plenary



Element

Category

They motivate you **A1e A3d A2h A2e**

The crit is good to discover exactly what you are doing right and wrong (final product). **B1e B1h**

Ideas were suggested from the tutor as the project progressed **A3a**

Gained ideas from the other people in the group **A2a A2b A2c**

Working environment **C4a C4b A2h.**

Experimentation **B2e**

Making roughs (quick ideas) **B2e.**

Practised the technique **C1b**

Learnt to research subjects **C2a, C2b, C2c**

Having to work with limited materials **B1d.**

Items for Comment

Stability : Change

1.	A	6
2.	B	7
3.	C	7
4.	E	141
5.	D	3

SESSION 2

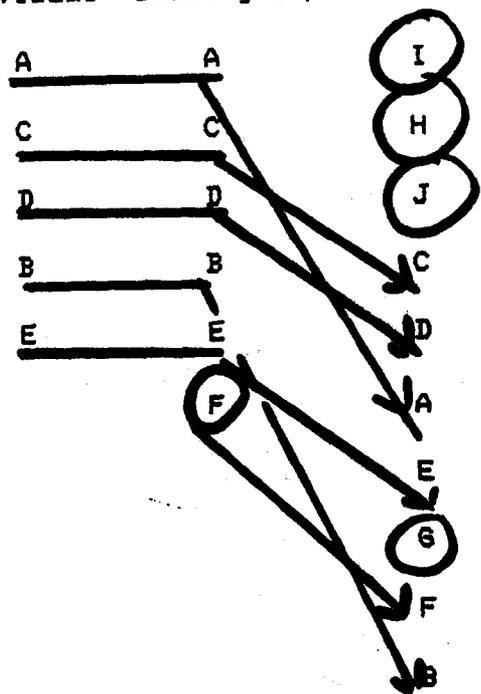
Individual Records
Degree of Stability vs Change

Name David Richards

No. 27

Year 82-83

Individual Small group Plenary



Element

Category

Attitude and motivation **A1a1 A1b A1c**

Feeling of achieving something **A1d**

End produced **B1f**

Practice **B2e**

Experiment **B2e**

Research and observation **C2h C2b C3c**

Other people's influence **A3a A2b A2c**
A3e A3f

Co-operative learning **A2c**

Criticism **B1e B1h**

Direct teaching **A3a A3b**

Items for Comment

Stability : Change

1.	A	4
2.	C	2
3.	D	2
4.	B	5
5.	E	1

SESSION 2

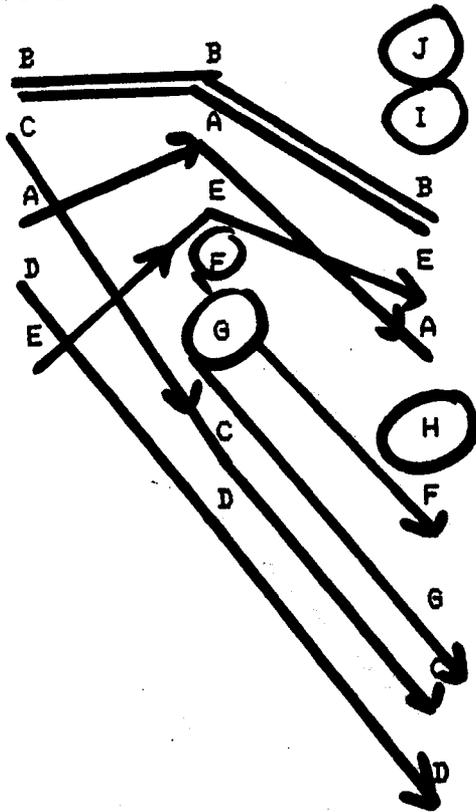
Individual Records
Degree of Stability vs Change

Name Dominic Seddon

No. 12

Year 82-83

Individual Small group Plenary



Element

Category

- Self motivation **A1c**
- Individual working **A1f**
- Practical working **B2e C1b C1c**
- Experimenting **B2e**
- Unrestricted atmosphere to a certain extent - freedom. **B2h B2a B2d**
- Available tutor **A3a A3c A3d**
- Group discussion at various points during project **A2b A2c**
- Looking at work of others **A2a**
- Comparing ideas with those of others **A2c**
- Learning from example **A3b**

Items for Comment

Stability : Change

1.	B	2
2.	C	7
3.	A	141
4.	D	6
5.	E	131

SESSION 2

Individual Records
Degree of Stability vs Change

Name Ayesha Shovo

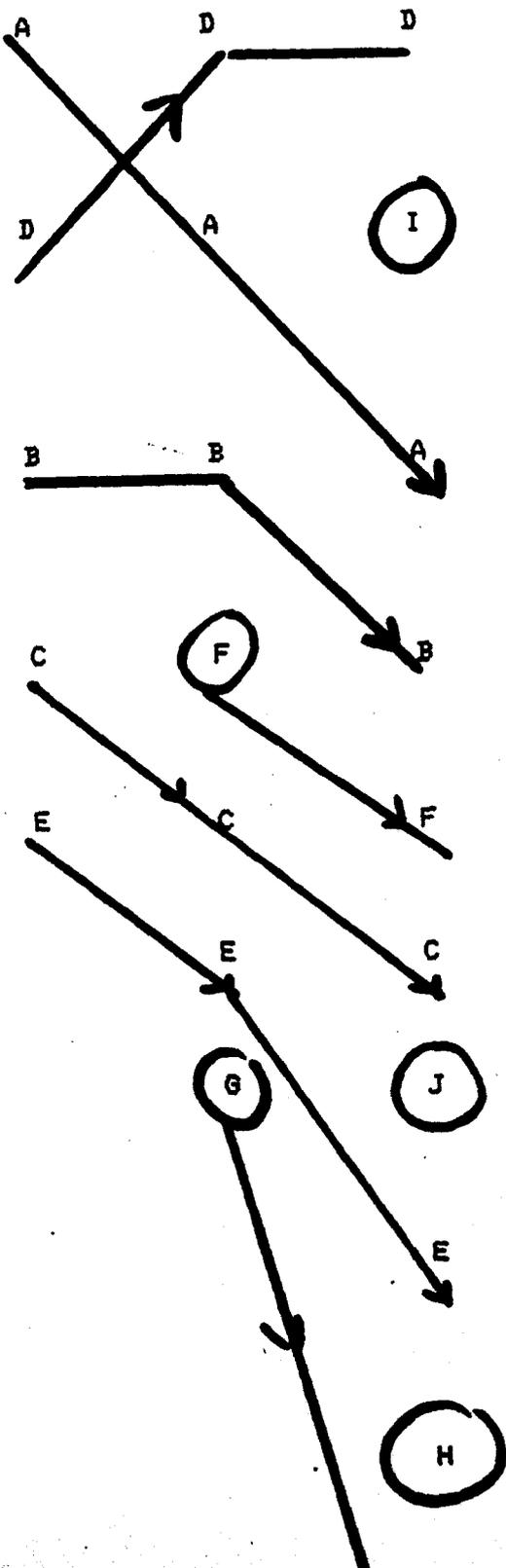
No. 5

Year 82-83

Individual Small group Plenary

Element

Category



Group discussion at end. Hearing other peoples difficulties. Seeing failures and triumphs of the whole group. Crit - analysis element

B1h A2a A2b
B1e

Students' attitude of mind, feeling of improvement - as if you are getting somewhere and motivation of project itself. Keeps student occupied and interested.

A1a; A1b
A1g A1d

Tutor's brief and examples of other pieces of work and how others dealt with problems at beginning or end of project. Starting point on which to build.

B1a B1b
B1c

Given subject matter for period of time to actually play with/ reassemble work out new or interesting ways to depict it.

B2a B2b
B2c B2d

Research in library to gain extra ideas. often a fantastic source of inspiration.

C2b C3c

Shown how to do various techniques, - i.e. in drawing or painting.

C1b C1c A3b

Working environment affects learning. Also timetable - set periods of learning per day - inflexible

A2h C4a
C4b

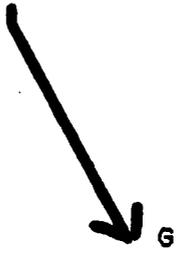
Personal research to find examples of work outside college, i.e., from other artists/photographer's works.

C2h
C2a
C2h

Presence of tutor - informal learning during project.

A3a
A3c
A3d

Name Ayesha Shovo (Cont)



G

Tutor actually drawing laborious designs/ideas out on the blackboard- stagnates inspiration.

A 3a

Items for Comment

Stability : Change

1.	A	2
2.	D	1
3.	B	1
4.	C	2
5.	E	3

SESSION 2

Individual Records
Degree of Stability vs Change

Name Paul Stone

No. 7

Year 82-83

Individual Small group Plenary

Element

Category



Highly competitive - i.e. racing to be "best"

A2e



The crit with "real" comment

B1e B1h



A combination of all other parts, using every sources imaginable to solve the project in hand

C2



Personal research into techniques, process, etc.

Ck C3a



Room for improvement

B2e



Trial and error with no guidance at all, having an idea and trying it out.

B2e



Learn by informal questioning

A3c A2b A2c



Physical environment helps learning

C4a C4b



Being told how, then doing without being shown, i.e. through communication.

A3a

Relaxed co-operative atmosphere.

A2h

Items for Comment

Stability : Change

1.	A	2
2.	C	2
3.	B	3
4.	D	5
5.	E	151

SESSION 2

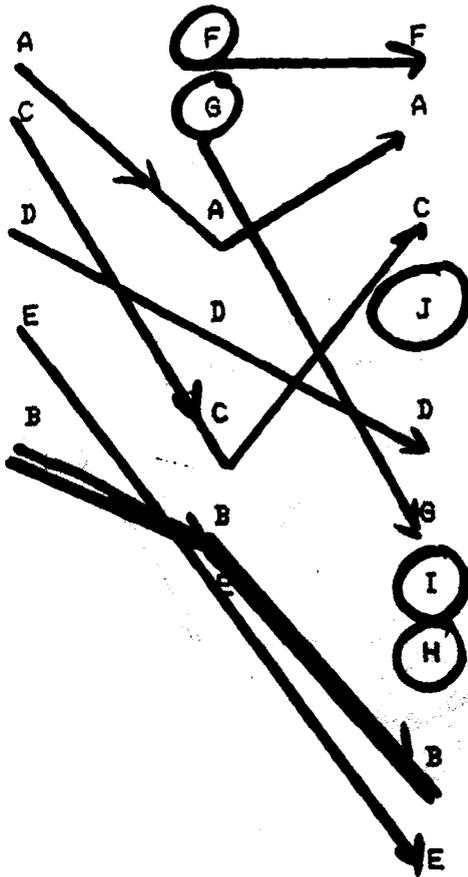
Individual Records
Degree of Stability vs Change

Name Chiara Sutherland

No. 25

Year 82-83

Individual Small group Plenary



Element

Category

Practice and experimentation

B2e

Being shown past people's work on the same project.

C2a C2b

A2a C2c

Watching ideas develop of those around you.

A2a A2c

Informal rather than formal lecturing. The crit.

B3e A3a A3c

A3d

B1e B1h

Talking to others, comparing ideas.

A2b A2c

Learning from my own mistakes.

B2e

Room for personal improvement.

A1b

The room itself - physical environment.

C4a C4b

Tutors showing slides, etc., lecturing.

A3b C2b

Having to keep up a pace, limited time.

B1g

Items for Comment

Stability : Change

1.	A	131
2.	C	131
3.	D	2
4.	E	6
5.	B	4

SESSION 2

Individual Records
Degree of Stability vs Change

Name Alison Tomlin

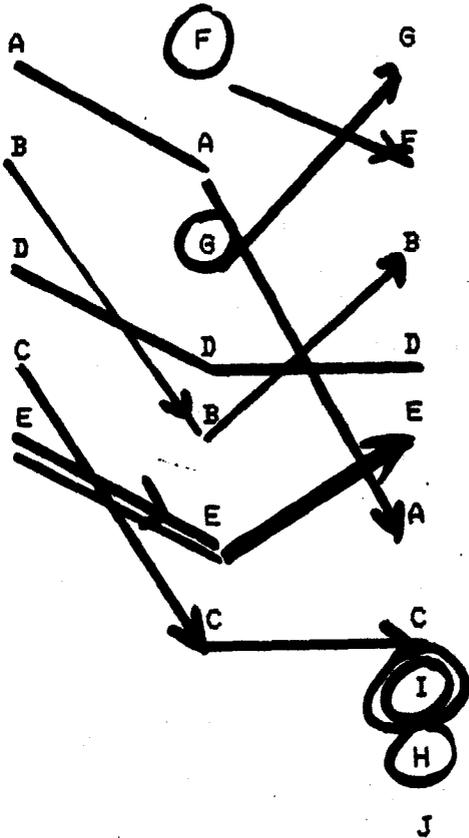
No. 1

Year 82-83

Individual Small group Plenary

Element

Category



Having tutor available for discussion all the time

A3c A3d

Being shown previous students' work.

A2a

Tutor explaining clearly and thoroughly

A3a

Experimenting

B2e

Seeing an end to the project an achievement to aim for

B1f C1e

Seeing what everyone else in the group did

A2a

Crits

B1e B1h

Working environment

C4a C4b A2h

Discussion in the group

A2b

Personal research

C2h C2a C2b

Items for Comment

Stability : Change

1.	A	5
2.	B	151
3.	D	1
4.	C	3
5.	E	121

SESSION 2

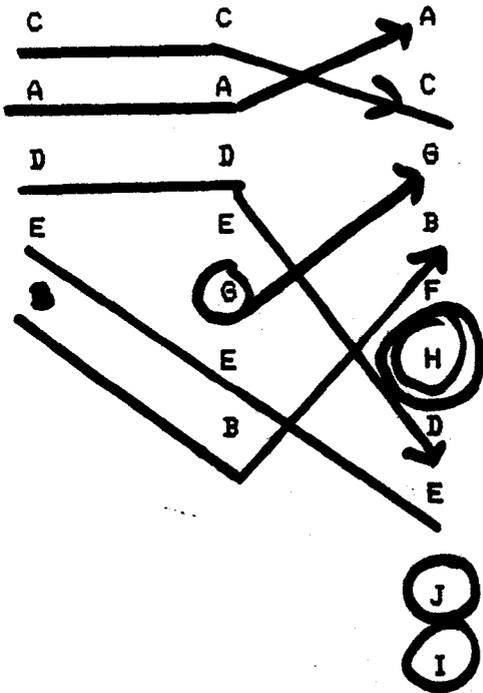
Individual Records
Degree of Stability vs Change

Name Chantal Willeinson

No. 23

Year 82-83

Individual Small group Plenary



Element

Category

Experimentation

B2e

Practice

B2e

Being criticised

B1e B1h

Attitude - motivation

A1e

Being shown

A3b

End product

B1f C1e

Watching other students

A2a

External stimulation (project
took place outside college)

C4c C2h

Independent research

C2

Working environment

C4a C4b

Items for Comment

Stability : Change

1.	C	1
2.	A	1
3.	D	4
4.	B	161
5.	E	3

SESSION 2

Individual Records
Degree of Stability vs Change

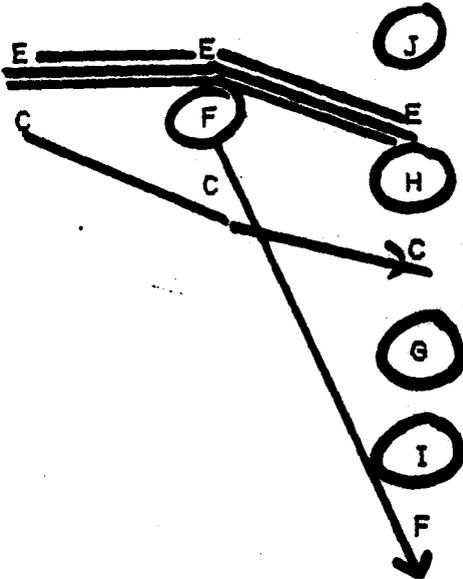
Name James Wisham

No. 4

Year 82-83

Individual Small group Plenary

D	D	D
A	A	A
B	B	B



Element

Category

- Interest in project **A1a i**
- Room for improvement **A1b**
- Attitude of teacher (character, etc.) **A3b**
- Having a crit **B1e B1h**
- Achievement at end **B1f C1e A1d**
- The group **A2a A2b A2c A2f A2i**
- Surroundings (environment) (physical environment) **C4a C4b**
- Have a lecturer over you - guidance etc. **A3a A3c**
- Co-operative effort **A2c**
- By using information from every source imaginable **C2h C2a**
C2 C2b

Items for Comment

	Stability	Change
1.	D	0
2.	A	0
3.	B	0
4.	E	1
5.	C	2

SESSION 2

Individual Records
Degree of Stability vs Change

Name Sharon Wright

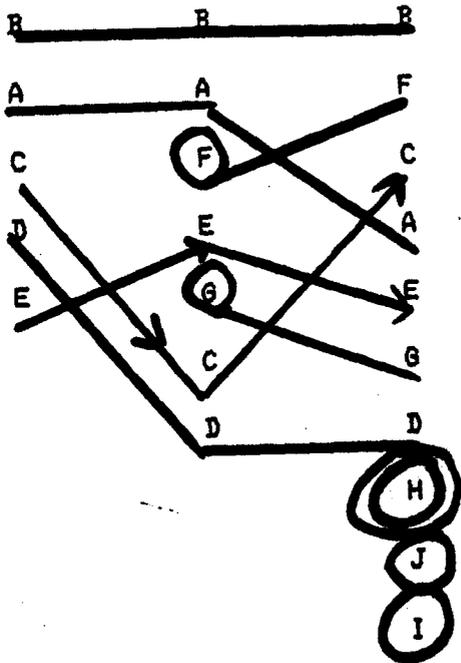
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Year 82-83

Individual Small group Plenary

Element

Category



Practice

B2e

Understanding of aims

B1a B1b

Research

C2

Demonstrations

A3b

Perseverance

Ak

Self-discovery, expression

A1g

Criticism

B1e B1h

End product

B1f E1e

The group

A2a A2b A2c A2f

The environment

C4a C4b

Items for Comment

Stability : Change

1.	B	0
2.	A	2
3.	C	161
4.	D	3
5.	E	121

HA

SESSION III

Name :

Year 1982-83

1. Comments

Obviously the ranking of factors will fluctuate between projects - dependent on such variables as tutor personality, subject area, specific aims and objectives and the nature of the work itself. Also I've never really felt that to call the work on foundation "projects" in the sense of, say, A level type projects was accurate or the right thing to call it at all. i.e. observation drawing or life drawing is precisely that and not necessarily a "project" (this is probably just a misconception of terminology on my part)

2. Was the list adequate?

Yes

3. Are there unsatisfactory aspects of the project method?

Confusion through lack of definition and amount of extant ideas in a group situation.

SESSION III

Name : Kim Burt

Year 1982-83

1. Comments

No but as a mature student my priorities have probably been affected by my age.

2. Was the list adequate?

Yes.

3. Are there unsatisfactory aspects of the project method?

Experimentation involved in the project method can be very time costly as opposed to the direct method of teaching, especially for beginners like foundation students. However, since in the final instance an artist/designer has to be self reliant, the project method is probably the best method.

SESSION III

Name : Jane Couper

Year 1982-83

1. Comments

No, my opinions were covered fairly well by the list overleaf.

2. Was the list adequate?

Yes.

3. Are there unsatisfactory aspects of the project method?

In some cases there could be a problem of lack of communication between pupil and tutor. I have found that tutors tend often to be rather vague when setting project and that pupils misinterpret their ideas.

SESSION III

Name : Alison Cowne

Year 1982-83

1. Comments

I feel that there should be more than one tutor available for the students as a second opinion on a problem can help.

2. Was the list adequate?

Yes, however some rather more extreme methods of teaching could have been listed.

3. Are there unsatisfactory aspects of the project method?

I feel that the project method should not put too much on the end product. Of course this is necessary but more experimenting, trial and error is just as important as the end product.

SESSION III

Name : Clare Jennings

Year 1982-83

1. Comments

I think towards the end of the course as well as students work being geared towards interviews, that the students should be encouraged to work toward their end of year exhibition.

2. Was the list adequate?

3. Are there unsatisfactory aspects of the project method?

SESSION III

Name : Kathryn Jones

Year 1982-83

1. Comments

I think all the items mentioned are very similar in importance and number ten does not mean that I disagree with it in any way

2. Was the list adequate?

Yes.

3. Are there unsatisfactory aspects of the project method?

Waste of time slightly by being given too long on general projects to research and look around as most people for the first few days sit around doing very little whereas when time is precious people work far harder.

SESSION III

Name : Rosalind Jones

Year 1982-83

1. Comments

All the things mentioned are all rather important. I found it difficult to organise things as important as this in terms of preference.

2. Was the list adequate?

Not really.

3. Are there unsatisfactory aspects of the project method?

Too much emphasis on actually aiming towards someone else's idea. I have had several projects where the project has been so structured with so many things to conform to that I really ended up doing the project how the teacher wanted it done and not how I wanted to do it very frustrating.

SESSION III

Name : Kirsten Marshall

Year 1982-83

1. Comments

Projects kept free to allow students to set their own standards and find out their own interests.

2. Was the list adequate?

Yes.

3. Are there unsatisfactory aspects of the project method?

SESSION III

Name : Amanda Ribbans

Year 1982-83

1. Comments

I personally feel that all the factors are of the utmost importance and that it is impossible to really put them into order of importance. I find having a structured brief very helpful but I really need a good relationship with my fellows. So my answer to this questionnaire can never be what I really feel. Because all the factors are on the same level and go to make up a successful course.

2. Was the list adequate?

Yes.

3. Are there unsatisfactory aspects of the project method?

When a project system is unsatisfactory, it is usually when you are not given a chance to experiment and make it your own. If everything is clear cut and all you have to do is follow a brief it is quite boring.

Project methods work in art for certain disciplines e.g. graphics, fashion, 3D design, because ultimately you will be given a brief and will have to fulfil it. However many Fine Artists find project restricting, which may or may not be a good thing.

SESSION III

Name : Alison Tomlin

Year 1982-83

1. Comments

2. Was the list adequate?

3. Are there unsatisfactory aspects of the project method?

No because when you go out to work you work to a brief - in project manner so I feel that it is a good training.

SESSION III

Name : Vanessa Vine

Year 1982-83

1. Comments

It has been a good year, I've enjoyed it and learnt a lot. But I'm glad I'm not a product of suburban Surrey. Well worth all the expenditure of everything - I'll cry when I leave!

2. Was the list adequate?

More or less - yes (note non-committal)

3. Are there unsatisfactory aspects of the project method?

I think that there is a little too much emphasis upon things (design-wise). Being commercially and socially "viable". It is a little difficult for conditioned people straight from school to explore all the freedom of expression that might be lurking, undiscovered, within them. There are too many bland "Kingston Clones" and not enough uninhibited real people around - well, you asked!

- Student definitions of a project -

FIGURE 1

SESSION III

Name : Harriet Ouroussoff

Year 1985-86

1. Comments

The factors I have put first tend to be things which are new to me; things I'd never experienced before this year. It was very hard to order a list of things which were all so important. The one I put last was "the final product"; I feel that the ways of getting to that final product were much more important.

2. Was the list adequate?

Yes.

3. Are there unsatisfactory aspects of the project method?

Perhaps some people are distracted or aggravated by having to work among other - people; it doesn't suit them. Under pressure to create or produce art, some people cannot work; when the pressure goes, they find it easier - no comparison with others, if they lack confidence. I think, on foundation, it's very important that the teachers are practising artists and designers at the same time as teaching - valuable advice and help they can give. It was also (this is perhaps a bit off the point) very important to be in the same building as all the degree students - for the advice etc. they gave and for a sight we could get through them of how the degree courses worked.

SESSION III

Name : Mina Miraphora

Year 1985-86

1. Comments

2. Was the list adequate?

Yes, but a couple of them were too closely related to differentiate from each other (e.g tutor involvement).

3. Are there unsatisfactory aspects of the project method?

Regarding the foundation course - projects were successfully compact (enabling consistent working habits) but perhaps a little too brief (only six days) and therefore never much more than an experiment or taster, as opposed to a more substantial learning experience.

SESSION III

Name : Andrew Mather

Year 1985-86

1. Comments

2. Was the list adequate?

Yes

3. Are there unsatisfactory aspects of the project method?

No

SESSION III

Name : Murdo Culver

Year 1985-86

1. Comments

2. Was the list adequate?

Yes.

3. Are there unsatisfactory aspects of the project method?

if the project is split up too much then the learning experience lapses. But equally if the project is a solid block then interest can tend to lapse.

SESSION III

Name : Emma Clegg

Year 1985-86

1. Comments

2. Was the list adequate?

Yes, a very thorough one, but it is difficult - or rather, impossible - to compartmentalise them in order of preference because so many of them are not valid without the others. For example, a clearly structured brief is something you take for granted (there is not project without it) and it is a point of departure for the other elements. Also each point would have a different emphasis with different tutors as they treat projects in different ways. I found a definite development from highly-structured projects to self-motivated ones in the first term with only occasional staff feedback during that time it was mostly the people in my group and my own ideas that inspired me.

3. Are there unsatisfactory aspects of the project method?

Not if all the factors listed are in interplay. It also helps if the group in which you are working works well together.

SESSION III

Name : Anna-Mai Aberdein

Year 1985-86

1. Comments

As a Fine Artist I could only consider these points in the context of the first and second term projects, and they were very flexible - unlike design projects

2. Was the list adequate?

3. Are there unsatisfactory aspects of the project method?

K

EDUCATIONAL DEVELOPMENT UNIT

COMMUNICATIONS AND GENERAL STUDIES

HCC/1

SOCIAL IMPACT OF SCIENCE

This exercise is a much abbreviated version of a year long project run with second year BTEC groups. Even in its shortened form, it is of interest and value and the work can be done in the time allowed.

The objectives are as follows:-

1. To encourage students to consider scientific and technological developments from the standpoint of how they affect society. Your research should have two aspects - the scientific basis and the social implications. These two aspects are usually dealt with by separate journals.
2. To allow students to choose a topic of interest to themselves and to pursue it in depth.
3. To enable students to use all the resources of the library to research a topic currently under debate.
4. To allow students to communicate what they have learned, in either spoken or written form.
5. To allow students to read or to listen to the work of others, to offer constructive comment and to take part in the assessment process.

The marks available for each section of this exercise are given below.

BIBLIOGRAPHY

40 marks.

The bibliography should contain at least ten items ranging from reference and background material to up-to-date journal and newspaper articles. You may include items seen on television. Each item must be correctly cited.

WRITTEN OUTLINE / ORAL PRESENTATION

40 marks

Students can choose whether to present their findings in written or in oral form.

The written version should consist of a brief outline in note form, with headings and sub-headings, but intelligible to someone else. The spoken

version should be a ten minute talk with appropriate overhead projector transparencies (if they are judged to be necessary).

CONSTRUCTIVE COMMENTS AND ASSESSMENT

20 marks

(10 marks for each item)

All students should write brief constructive comments on two separate pieces of work done by their fellows, and award them each a mark out of 10.

29) TIME ALLOWED: All afternoon on Thursday May 25th, and all morning on the Thursday following the last exams. Oral presentations and critical commentaries on the written notes will take place during the afternoon of that Thursday. If any written notes are ready in the morning, commentaries on them may be written during the morning.

(It would be helpful if you could indicate whether you think you would prefer the written or the oral presentation. If many students choose the oral presentations, we might have to start them in the morning.)

HOW TO PROCEED WITH THIS EXERCISE

Over the years, students have found the most effective way of completing this task is to take the following steps.

1. Use recent copies of the *New Scientist*, or of *Science* issues of the *Guardian*, or items from the cuttings file. Skim through till you find a topic of particular interest to you. Make a list of the articles you have encountered to cite in your bibliography and take notes for your written or oral report.
2. Look at copies of the *British Humanities Index* for the past few years and see how much has been written on your topic in general-interest publications - newspapers and Sunday papers, weeklies, etc. Check which journals are held at Penrhyn Road, and in what format (microfilm, microfiche, print). Look up the journal articles, make notes and keep bibliographic details to cite in your list.
3. Look up your topic in the *Science and Technology Index* and find out which scientific journals are held at PR. Make notes and keep details.
3. Look up your topic in reference works and encyclopaedias to ensure you understand it. Take notes and keep bibliographic details.
4. Look in the subject index to see if there are recent text books on your topic. Look in the Author and Title Index on the microfiche to see where they are located.

By this time you should have plenty of information and enough titles for your bibliography. Once you start this research you will become alert to items in your newspaper or on television and you can add them to your list.

EDUCATIONAL DEVELOPMENT UNIT

CHEMISTRY, HIGHER DIPLOMA, SECOND YEAR

GENERAL AND COMMUNICATION STUDIES

THE SOCIAL APPLICATION OF SCIENCE

This programme of work has been designed to encourage you to consider the way that scientific and technological developments are having an impact on society. Work in science sometimes has social, economic, political, moral and even religious implications. Society in its turn sometimes has an impact on the way that work in science and technology develops.

Your studies will produce two main pieces of assessed work - an oral Presentation and a written Report. You will be working in groups of no more than 4 people per group.

The assessment will take into account how well you can research information and how well you can present it. The quality of your communication skills will be tested both in the Presentation and in the Report. You should assume that your audience is made up of intelligent laymen, not scientific experts.

As you will be working in groups, part of the assessment will cover how well the group has worked together. It is therefore in your interests to make sure that the group is well organised and that each member plays a full part. You should keep minutes of the group's meetings, a record of the decisions it has made and an account of how the work has been organised. This must be submitted as an Appendix to the Report, and it will therefore be assessed.

Programme of Work:Stage 1: Research

Form into groups, select a topic, make a provisional plan of the final report, organise a programme of work.

Prepare a bibliography, collect information, hold regular meetings to exchange results, change provisional plan of final report as research progresses.

Stage 2: Oral Presentation

Each group will be allocated a maximum of 20 minutes (+ 5 minutes for answering questions). You will be expected to give an outline of the main points of your Report. You may bring brief notes

(headings, facts and figures, key words, names etc) to prompt you but do not bring pages of text and proceed to read them aloud. You will be assessed on the success of your communication skills so consider using visual aids (like the over-head projector, the blackboard, a slide projector etc).

Stage 3: Written Report

This document should be properly presented as a bound report containing all the work. It is a group project so a report made up of separate bits, untidy, un-related, not bound, will show that the group has not been functioning well. It should have a contents page, introduction, chapters and a conclusion; it should also include the report of the way the group has operated.

Short extracts, diagrams or charts may be photocopied and inserted into the text. All quotations must be fully acknowledged and a bibliography should be presented at the end. Whole pages or whole articles used as source material should be attached as an appendix. (See the note at the end: Bibliography and Citation).

The Report should be as long or as short as it needs to be. As a rough guide assume that each member is responsible for between 1,500 - 2,000 words.

Assessment

For the Oral Presentation: 20%

This will be made up of 10% for Tutor's Assessment and 10% based on Audience Assessment.

For the Written Report: 70%

This Assessment will be awarded by the Tutor after consultation with the group on how the marks should be distributed.

For the Written Comment: 10%

Each student will read, assess and comment upon one Report (other than the one which he or she has prepared). The quality of that comment will be assessed by the Tutor and they will be read by the authors of the Report.

Timing and Tutoring:

The Oral Presentation and the hand-in of the written Report will be after the Diploma exams, i.e. after week 21.

Groups can make appointments for tutorials at any time by leaving requests on the door of Room 110C.

This assessment represents 60% of the total G&C marks for the two year course; coursework from year 1 represents the other 40%.

James Wisdom
Room 110C

EDUCATIONAL DEVELOPMENT UNIT

COURSE REVIEW - THE STUDENT CONSULTATION EXERCISE

INTRODUCTION

Since April 1986 the EDU has been conducting Student Consultation Exercises to assist Course Teams in the evaluation of their courses. 25 Reports have been submitted covering 18 Degree or Diploma Courses. Of those 25 Reports, 4 resulted from questionnaires and 21 from Student Consultation Meetings. We have spoken to approximately 1145 students representing approximately 2063 students in aggregate.

THE STUDENT CONSULTATION MEETING

This meeting is conducted as a formal, structured conversation based on a group exercise called a "snowball". The meeting is timetabled to last about 75 minutes with each year of a course. Working first on their own, then in groups of 4 or 5, the students are asked first to note down their comments about the course and then to assemble their comments into a commonly-agreed list in order of priority. The only prompt they are given is that we are interested in anything that affects the way they learn. As far as is possible the exercise is then conducted by two members of the EDU together, one to lead the conversation, the other to take notes on the OHP for the whole group to see and perhaps to challenge. Those notes then form the basis of the report, one copy of which is handed to the Course Leader with the advice that it is returned to at least some of the students for checking.

PROCEDURES

This exercise is now offered to all courses as part of their revalidation process. Apart from assisting the Course Teams to satisfy the requirements for consultation and evaluation, it serves to identify the types of educational development and staff development work a course team might need and it gives the EDU a point of analysis from which it can establish the priorities for its work across the Polytechnic.

The exercise is a swift and effective method of involving students in evaluation. The method is designed to ensure that only commonly-agreed points get through to the report, though sometimes the report contains clearly-identified disputed points as well. The students are promised confidentiality in the discussions and the report to the Course Leader is confidential. The agenda is set by the students who find features to praise as well as to criticise. We insist that all criticism should come with practical proposals for change.

The reports have been used in a variety of ways - sometimes as the basis for further meetings between staff and students, sometimes as an appendix to the course documentation. The EDU takes the position of a neutral but sympathetic observer and the report is written without our commentary or suggestions for change - these can be requested in a separate document.

FINDINGS

After the 9th Report we circulated a note to Course Leaders asking for their comments on the usefulness of the reports they had received and for suggestions for change. The replies confirmed the value of the exercise though emphasised the importance of careful drafting of the report to ensure that the process of making change was not obstructed by small but contentious issues.

It has been our repeated experience that the students are grateful to be involved in this activity and wish it to happen more often. The process has cast some doubt on the efficiency of the system of Student Representatives sitting on Course Committees and points to the need for training for the representatives and timetabled meetings to allow for consultation and reporting back.

The exercise has also revealed the need for Course Teams to engage in a variety of forms of evaluation beyond the collection of statistics for the Annual Course Report. If there was a more general culture of evaluation operated by individual lecturers on their own courses and by the Course Team to monitor the effects of changes in course design and course delivery, then the nature of the quinquennial review would be able to change accordingly.

To explore the detailed findings of the Reports is beyond the scope of this paper and to attempt to summarise them is to risk the banal, but this particular approach has shown that, at this time in this Polytechnic, it is vitally important to recognise that each student experiences each course as a whole, that our present techniques of teaching and learning are so intensive that the mechanism of "course delivery" can easily be put out of gear, that each course is a living thing with its own culture that needs continuous close attention, that the process of educational change is best achieved through the general approval of the Course Team working together and that this requires a high degree of management skill not just by the Course Leader but by all those involved with the course.

James Wisdom
6th February 1989

Courses reviewed since April 1986:

Information Systems Design
Quantity Surveying
HND Business Studies
Three-dimensional Design
Combined Studies
Languages, Economics and Politics
Postgraduate Diploma in Marketing
Fine Art
Civil Engineering

Computer Science
Masters in Information Technology
Estate Management
Architecture
Geological Sciences
HND Chemistry
Fashion
Business Studies
Chemistry

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independently or in co-operation, from observation and experiment as well as from books, over a period of time.

1916 D. SNEEDEN in *School & Society* 16 Sept. 420/2 Some of us began using the word 'project' to describe a unit of educative work in which the most prominent feature was some form of positive and concrete achievement. 1919 J. A. STEVENSON in *School Sci. & Math.* Jan. 57 A project is a problematic act carried to completion in its natural setting. 1924 *Progressive Education* 1. 72 A distinguishing earmark of a project, then, is the whole child responding to a situation; it is child activity. 1938 *New Statesman* 8 Jan. 46/2 *New Schools for Old* shows us the changes now being introduced into American public school methods of education. Children are encouraged to cope with the practical problems of life, and emphasis laid upon the 'project' or collective enterprise. 1942 B. CLEMENTS et al. *Projects for Junior School: Teachers' Bk.* i. 3 When working out a project the teacher gives help only when and where necessary, since the basic principle of modern teaching is child activity and teacher guidance. 1959 *Housewife* June 16 Cristy, who in one crowded summer, enjoys a library reading project, a visit to a Kansas farm and a course in baby care. 1961 CURTIS & BOWLWOOD *Short Hist. Educ. Ideas* (ed. 3) xx. 380 Not only were large-scale projects on such topics as 'Conservation' and 'Pan-Americanism' undertaken by many schools—often all the schools of an area—as part of the curriculum, but, in addition, community service by school children became common. 1965 *Nursing Times* 5 Feb. 191/1 By etymological definition, a project is a plan, scheme or design. Educationally, it refers to any exercise in which students gather their own information on a subject, arrange it and present it in an interesting form. 1976 P. DICKINSON *King & John* i. 19 Can I do next term's project on it [sc. a toad]?

c. *N. Amer.* A government-subsidized block of houses or apartments available at low rents. *housing project*: see *HOUSING sb. 1 7.

1932 *Amer. City* Aug. 82/1 (heading) Federal Aid Now Offered for Low-Cost Housing and Slum-Clearance Projects. *Ibid.* 82/2 All housing projects should be large-scale developments. 1958 *Hearings Housing Act 1958* (U.S. Congress, Comm. Banking & Currency) 7 July 78 There is new thinking now to break up the projects and even though they are slum sites or urban redevelopment sites, to build scattered on the site. 1966 *Listener* 29 Sept. 454/1 Jim lives in one of a group of fifteen-storey-high buildings that make up a project, a city-owned housing estate. A family can rent an apartment cheaply in a project if it has a low income. Officially intended to replace the slum neighbourhoods of ten years ago, the projects are stark, anonymous, all-brick slums now. 1968 *Globe & Mail* (Toronto) 3 Feb. 3/4 A 2,000-unit high-rise and low-rise project. 1975 *New Yorker* 29 Sept. 43/3, I lived in a project then. The floors were so new they didn't have to be covered with anything.

d. A co-operative enterprise, often with a social or scientific purpose, but also in industry, etc.

1952 D. RIEBMAN in *Antioch Rev.* Dec. 426 Professor John R. Seeley is now engaged in directing a large research project. 1952 *Audem Notes* 61 Thou shalt not worship projects nor shalt thou or thine bow down before Administration. 1965 H. I. ANSOFF *Corporate Strategy* ii. 17 CIT uses long-term profitability over the lifetime of the project as the yardstick for evaluation. 1966 T. PYNCHON *Crying of Lot 49* iv. 88 When they grew up they got stuck on some 'project' or 'task force' or 'team' and started being ground into anonymity. 1969 J. ARGENTI *Managem. Techniques* v. 26 Major projects call for the co-ordination of large numbers of machines, sub-contractors, finance, local authorities, design staff and so on. 1974 *Howard Jnl.* XIV. 37 One aspect of a larger collective project being undertaken by members of the Centre for Contemporary Cultural Studies on 'mugging'.

8. *attrib. and Comb.* (sense 5), as *project approach, area, book, engineer, house, housing, manager, method, officer, work.*

1973 *N.Y. Law Jnl.* 4 Sept. 5/6 We are endeavoring to try appropriation cases on a project approach. 1961 *Economist* 2 Dec. 935/3 It means accepting—as in India—the idea of a 'project area' in which all the means of modernisation will be made to converge. 1976 *Billings* (Montana) *Gaz.* 20 June 3-2/1 We joined Montana Federation of Women's Clubs because it offers prizes in all sorts of project areas. 1947 A. EINSTEIN *Mus. Romantic Era* xiii. 181 The scheme for the composition of such a work is found in Schumann's 'project-book'. 1976 *Columbus* (Montana) *News* (Fair Bk. Suppl.) 10 June 18/1 Those exhibiting must have the project books up to date and be enrolled in the project and unit in which they are exhibiting. 1931 F. L. EIDMANN *Econ. Control Engin. & Manuf.* iv. 43 In plants where the engineering projects are large... it has been found that a very good way of handling the work is to assign one engineer to the task of 'living' with the job from start to finish... This engineer is known as a 'project engineer' in some organizations. 1973 *Times* 12 Nov. 28/8 Let us see the professionals all take a greater share of responsibility if a project is to be a success instead of leaving it to the 'jack of all trades'—the project engineer. 1967 G. JACKSON *Lat. Nov. in Soledad Brother* (1971) 139, I thought most blacks... understood... that these places were built with us in mind, just as were the project houses, unemployment offices, and bible schools. 1970 D. GOLDRICK et al. in I. L. Horowitz *Masses in Lat. Amer.* v. 182 Those invaders who could qualify by 'normal' criteria for project housing would receive it. 1973 *Black Panther* 14 Apr. 7/3 Her application for project housing was refused by the Chattanooga Housing Authority. 1965 *Guardian* 31 Mar. 11/3 The truth lies... in the person of what is usually known as the project manager. 1976 *Southern Ewn. Echo* (Southampton) 10 Nov. 19/6 Conder, based at Winchester, are also acting as the project managers. 1916 J. C. MOORE in *School Sci. & Math.* Nov. 688 The project method in science is nothing new, though the name often calls forth an attack... The story of every great invention is the story of a project. 1929 W. H. KILPATRICK *Founda-*

tions of Method xxi. 346 'You defend then the term 'project method'?... 'If it be thought of as a purposeful way of treating children in order to stir the best in them and then to trust them to themselves as much as possible, yes, I approve it.' 1943 H. READ *Educ. through Art* vii. 233, I am aware that serious criticisms have been made of the project method of teaching, but they seem to be based on a formless type of project. 1933 CURTIS & BOWLWOOD *Short Hist. Educ. Ideas* xvii. 476 After the Great War of 1914-18 Dewey's problem method was reinterpreted by W. H. Kilpatrick as the project method. 1968 H. I. ANSOFF *Corporate Strategy* i Dr Ansoff worked for the RAND Corporation as a project officer. 1973 R. HAYES *Hungarian Game* xxxi. 183 Generally speaking, sir, agents administer things, while Project Officers administer people. 1941 *Manch. Guardian Weekly* 14 Mar. 214/4, I... discover 'underlying object of fostering project work on citizenship'. 1958 *Sunday Times* 15 June 4/8, I want more, not less, practical mathematics in junior schools... and suitably graded mathematical project work in secondary schools.

Project, v.n., Propel, hurl, cast, throw, fling, shoot, eject. *Attract*
Devise, contrive, scheme, plan, plot.
v.n., jut, extend, protrude.
n., Proposal, plan, idea, design, purpose, scheme, intention. *Venture*

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Oxford
English
Dictionary
(1972)

Project (prɒ'dʒekt, prɒ'dʒɪkt), n. late ME. [ad. L. *projectum*, neut. sing. of *projicere*; see next.] 1. A plan, draft, scheme, or table of something; a tabulated statement; a design or pattern—1657. 2. A mental conception or idea; speculation—1727. 3. Something projected for execution; a plan, scheme, purpose; a proposal—1602.
a. a *Hen. IV.* i. iii. 99. 2. Projects of draining unrounded grounds—1663. New Projects were every day set on foot for Money, which serv'd only to... increase the People's CLARENDOON.
Project (prɒ'dʒekt), v. 1477. [f. L. *projicere*, *projicere* to throw forth, L. *pro* PRO-1 + *jacere* to throw.] I. 1. *trans.* To plan, contrive, or design (something to be done, or some action to be carried out); to form a project of. Also with *inf.* (now *rare* or *Obs.*). 2a. To set forth, exhibit; to present to expectation—1607. 2. I projected and draw up a plan for the union FRANKLIN. Sketches projected but abandoned—1865. 2. I cannot project mine own cause so well To make it clear SHAKES.

A Supplement
to the Oxford
English
Dictionary
(1952)

et, sb. Add: 5. b. Educ. An exercise in
Pupils are set to study a topic, either

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Roger's
Thesaurus

V VOLITION	I Volition in General	595-616
Division (I)	II Prospective Volition	617-675
INDIVIDUAL VOLITION	III Voluntary Action	676-699
	IV Antagonism	700-724
	V Results of Action	725-732

672 Undertaking

N. *undertaking*, contract, engagement, pledged word, obligation 764n. *promise*; job, task; self-imposed task, labour of love, pilgrimage 597n. *voluntary work*; operation, exercise; programme, project, design 623n. *plan*; tall order, large assumption, large undertaking 700n. *hard task*; enterprise, emprise; quest, search, adventure 459n. *enquiry*; venture, speculation, stake 618n. *gambling*; occupation, matter in hand 622n. *business*; struggle, effort, campaign 671n. *essay*.

Adj. *enterprising*, pioneering, adventurous, venturesome, daring; go-ahead, progressive; opportunist, alive to opportunity; ambitious 859adj. *desiring*; overambitious 857adj. *rash*; responsible, owning responsibility.

Vb. *undertake*, engage in, betake oneself, take up, go in for, devote oneself to; venture on, take on, tackle 671vb. *essay*; go about, take in hand, turn one's hand to, put one's hand to; set forward, set going 285vb. *promote*; proceed to, broach, embark on, launch into, plunge into, fall to, set to, buckle to, set one's shoulder to the wheel 68vb. *begin*; assume take charge of 689vb. *manage*; execute

672-674

725vb. *carry out*; set up shop, have irons in the fire 622vb. *busy oneself*; take on one's shoulders, take upon oneself, assume responsibility, assume an obligation 917vb. *incur a duty*; engage to, commit oneself, contract 764vb. *promise*; volunteer 597vb. *be willing*; show enterprise, pioneer; venture, dare 661vb. *face danger*; apprentice oneself 669vb. *prepare oneself*.

See: 68, 285, 459, 597, 618, 622, 623, 661, 669, 671, 689, 700, 725, 764, 857, 859, 917.

725-727

done, well-d., achieved, accomplished etc.vb.; wrought out, highly wrought, elaborate 646adj. *perfect*; sped, well-s. 727adj. *successful*.

Vb. *carry through*, follow t., follow up, hole out; drive home, clinch, seal, set the seal on, put the seal to, seal up; clear up, mop up, wipe up, finish off, polish off; dispose of, despatch, give the coup de grâce; complete, consummate, put the finishing touch, cast off (knitting), nail the roof on, top out 54vb. *make complete*; elaborate, hammer out, work o. 646vb. *perfect*; ripen, bring to a head, bring to the boil, bring to boiling point 669vb. *mature*; sit out, see out, see it through (see *carry out*); get through, get shot of, dispose of, bring to its close 69vb. *terminate*; set at rest 266vb. *bring to rest*. *carry out*, see through, effect, enact 676vb. *do*; despatch, execute, discharge, implement, effectuate; realize, compass, bring about, accomplish, consummate, achieve 727vb. *succeed*; make short work of, make no bones of; do thoroughly, leave no ends hanging, not do by halves, go the whole hog, be in at the death; deliver the goods, bring home the bacon, be as good as one's word, fill the bill.

climax, cap, crown all 213vb. *crown*; culminate, stand at its peak; scale the heights, conquer Everest; reach boiling point, come to a crisis; reach the limit, touch bottom; put the lid on, add the last straw; come to its end, attain one's e., touch the goal 295vb. *arrive*; die a natural death, die in one's bed; have enough of, be through with 635vb. *have enough*.

See: 54, 69, 154, 157, 213, 236, 266, 295, 455, 599, 627, 635, 646, 669, 676, 727.

726 Non-completion

N. *non-completion*, non-success 728n. *failure*; non-performance, inexecution, neglect 458n. *negligence*; non-fulfilment 636n. *insufficiency*; deficiency, deficit 307n. *shortcoming*; lack 55n. *incompleteness*; unripeness, immaturity 670n. *undevelopment*; never-ending task, Penelope's web, Sisyphean labour, argument in a circle, recurring decimal 71n. *continuity*; perfunctoriness, superficiality

tinkering, work undone, job half-done, ends left hanging, points uncleared; no finality, no result, drawn battle, drawn game; stalemate, deadlock; semi-completion, launching stage.

Adj. *uncompleted*, partial, fragmentary 55adj. *incomplete*; unfinalized, unbegun 55adj. *unfinished*; undone, unperformed, unexecuted, unachieved, unaccomplished; unrealized, half-done, half-finished, half-begun, hardly b. 458adj. *neglected*; half-baked, underdone, unripe 670adj. *immature*; unthorough, perfunctory, superficial; not cleared up, left hanging, left in the air; lacking finish, unelaborated, not worked out, inchoate, sketchy, in outline 647adj. *imperfect*; unbleached, unprocessed, semi-processed; never-ending 71adj. *continuous*.

Vb. *not complete*, hardly begin, leave undone, leave in the air, leave hanging 458vb. *neglect*; skip, scamp, do by halves, tinker, paper over the cracks 636vb. *not suffice*; scotch the snake not kill it 655vb. *wound*; give up, not follow up, not follow through; fall out, drop o., not stay the course; fail of one's goal, fail of one's end, fall down on 728vb. *fail*; defer, postpone, put off to tomorrow 136vb. *put off*.

Adv. *on the stocks*, under construction, on the anvil, in preparation, in process of; before the finish.

See: 55, 71, 136, 307, 456, 458, 636, 647, 655, 670, 728.

725 Completion

N. *completion*, finish, termination, conclusion, end of the matter 69n. *end*; terminus 295n. *goal*; issue, upshot 154n. *eventuality*; result, end r., final r., end product 157n. *effect*; fullness 54n. *completeness*; fulfilment 635n. *sufficiency*; maturity, readiness, perfect r. 669n. *maturation*; consummation, culmination, climax, ne plus ultra 646n. *perfection*; exhaustiveness, thoroughness 455n. *attention*; elaboration, rounding off, finishing off, mopping up, winding up; roofing, topping out; top, crown, superstructure, keystone, coping-stone 213n. *summit*; missing link 627n. *requirement*; last touch, last stroke, crowning s., final s., finishing s., coup de grâce; achievement, fait accompli, work done, finished product (see *effectuation*); boiling point, danger p., breaking p., last straw 236n. *limit*; dénouement, catastrophe, last act, final scene 69n. *finality*.

effectuation, carrying through, follow t.; execution, discharge, implementation; despatch, performance 676n. *action*; accomplishment, achievement 727n. *success*; elaboration, working out; holing out.

Adj. *completive*, completory, completing, perfective; crowning, culminating 213adj. *topmost*; finishing, conclusive, final, last 69adj. *ending*; unanswerable, crushing; thorough, thorough-going, wholehogging 599adj. *resolute*.

completed, well-c., full 54adj. *complete*;

618 n. *non-design*; hat-trick, stroke of genius, master-stroke, happy s., scoring s. 694 n. *masterpiece*; trump, trump card, winning c., card up one's sleeve 623 n. *contrivance*; success in examination, pass, qualification; match-winning 34 n. *superiority*.

victory, infliction of defeat, beating, whipping, licking, trouncing 728 n. *defeat*; conquest, subdual 745 n. *subjection*; successful attack, expugnation, storm, escalate 712 n. *attack*; honours of battle, the best of it, triumph; win, game and match; outright win, complete victory, checkmate; narrow win, Pyrrhic victory, well-fought field; easy win, runaway victory, love game, walk-over, push-o., picnic; crushing victory, quelling v., slam, grand s.; kill, knock-out, K.O.; mastery, ascendancy, upper hand, whip-h., advantage, edge, winning position, certain victory 34 n. *vantage*; no defeat, stalemate 28 n. *draw*; celebration of victory, triumph, ovation, epinician ode 876 n. *celebration*. *victor*, winner, match-winner, champion, world-beater, medallist, prizeman, first, double f. 644 n. *exceller*; winning side, the winners; conqueror, conquistador, thunderbolt of war; defeater, beater, vanquisher, overcomer, subjugator, subduer, queller; master, master of the field, master of the situation; a success, successful rival, successful man, self-made m., rising m. 730 n. *made man*; triumpher, triumphator, conquering hero.

Adj. *successful*, effective, efficacious; crushing, quelling; efficient; sovereign 658 n. *remedial*; well-spent, fruitful 640 adj. *profitable*; happy, lucky; felicitous, masterly 694 adj. *skilful*; ever-victorious, unbeatable (see *unbeaten*); match-winning, never-failing, surefire, foolproof; unerring, infallible, sure-footed 473 adj. *certain*; prize-winning, victorious, world-beating 644 adj. *excellent*; winning, leading, up, one up 34 adj. *superior*; on top, in the ascendant, rising, on the up and up, sitting pretty 730 adj. *prosperous*; triumphant, crowning; triumphal, epinician; crowned with success, flushed with victory; glorious 866 adj. *renowned*. *unbeaten*, undefeated, unsubdued, unequalled, unvanquished, unovercome 599 adj. *resolute*; unbeatable, unconquerable, ever-victorious, invincible.

Vb. *succeed*, succeed in, effect, accomplish, achieve, compass 725 vb. *carry through*, be successful, make out, win one's sp., make a success of, make a go of, make short work of, rise to the occasion; make good, rise, do well, get promotion, work one's way up the ladder, work one's way up, come to the top 730 vb. *prosper*; pass, make the grade, qualify, graduate, come off well, come well out of it, come off flying colours, come out on top, have the best of it 34 vb. *be superior*; advance, break through, make a breakthrough 285 vb. *progress*; speed well, strive for some purpose, gain one's end, reach one's goal, secure one's object, obtain one's objective, attain one's purpose; pull it up to be as good as one's word, bring home the bacon; have a success, score a s., make a hit, make a kill; hit the jackpot, break the bank; score a point, win a p., carry p.; arrive, be a success, get around, make one's mark, click.

be successful, be efficacious, be effective, come off, come right in the end; answer the purpose, do the trick, ring the bell, show results, turn out well; turn trumps, rise to the occasion; do the do wonders, do marvels; compass, name age 676 vb. *do*; work, act, work magic, act like a charm 173 vb. *operate*, take effect, tell, pull its weight 171 vb. *influence*; bear fruit 171 vb. *be fruitful*, get it, hit it, hit the nail on the head; work one's hand well, not put a foot wrong, never go wrong; be sure-footed, keep on the right side of; have the ball at one's feet, hold all the trumps; be irresistible, know the meaning of failure, beat obstacles aside 701 vb. *do easily*; not knock when one is beaten, come up smiling vb. *be resolute*; avoid defeat, hold one's own, maintain one's position 599 vb. *stand firm*.

triumph, have one's day, be crowned with success, wear the laurels of victory, carry a trophy 876 vb. *celebrate*; crow, come over 877 vb. *boast*; score, score off, get one up on; triumph over difficulties, contrive a success, manage, surmount, overcome obstacles, get over a storm, sweep difficulties out of the way; find a loophole, find a way out, tide over 66 vb. *escape*; make head against, stem the current, weather the storm 715 vb. *resist*.

727 Success

N. *success*, glory 866 n. *famousness*; success all round, happy outcome, happy ending, favourable issue; prowess, success story, progress, steady advance, God-speed, good s., time well spent 285 n. *progression*; fresh advance, breakthrough; one's day, continued success, run of luck, good fortune 730 n. *prosperity*; advantage, lead, temporary l., first blood 34 n. *vantage*; momentary success, flash in the pan; exploit, feat, achievement 676 n. *deed*; accomplishment, goal 725 n. *completion*; a success, feather in one's cap, triumph, hit, smash h., triumphant success, howling h., knock-out, kill; good hit, winning h., mad shot, wild shot, lucky stroke, strike

loser, unsuccessful competitor, baffled enemy, defeated rival; also-ran, non-starter; has-been, extinct volcano; defeatist, pessimist, misery 834 n. *moper*; fooner, sorcerer's apprentice 697 n. *bungler*; dud, failure, plucked examinee; sacrifice, victim, prey 544 n. *dupe*; underdog 35 n. *inferior*; beat generation, beatnik 25 n. *misfit*; bankrupt, insolvent 805 n. *non-payer*; the losers, losing side, the defeated, the conquered, the vanquished, the fallen.

Adj. *unsuccessful*, ineffective, pale; inglorious, unsuccessful, empty-handed; unlucky 731 adj. *unfortunate*; vain, bootless, negative, profitless; dud, misfired, hanging fire; miscarried, stillborn, aborted, abortive, premature; stultified; jilted, ditched, left holding the baby; feckless, manqué, failed, plucked, ploughed, flunked; unplaced, losing, failing; stumbling, tripping, groping, wandering, out of one's depth 474 adj. *uncertain*.

defeated, beaten, bested, worsted, pipped; non-suited, cast; baffled, thwarted, foiled 702 adj. *hindered*; disconcerted, dashed, discomfited, hoist with one's own petard; outmanœuvred, outmatched, outplayed, outvoted; outclassed, outshone 35 adj. *inferior*; thrashed, licked, whacked; on the losing side, among the also-rans, unplaced; in retreat, in flight 290 adj. *receding*; routed, scattered, put to flight; swamped, overwhelmed, sunk; overborne, overthrown, struck down, borne down, knocked out, kaput, brought low, fallen; captured, made a prey, victimized, sacrificed.

grounded, stranded, wrecked, on the rocks, on one's beam-ends 165 adj. *destroyed*; unhorsed, dismounted, thrown, thrown on one's back, brought low; ruined, bankrupt, insolvent 805 adj. *non-paying*.

Vb. *fail*, not succeed, have no success, have no result; be unsuccessful, — ploughed, — plucked etc. adj.; fall down on, flunk, fuzzle, muddle, botch, bungle 495 vb. *blunder*; not make the grade, be found wanting 636 vb. *not suffice*; fail one, let one down 509 vb. *disappoint*; misaim, misdirect, miss one's aim, go wide, make a bosh shot, miss, hit the wrong target 282 vb. *deviate*; get nothing out of it, get no change out of it, draw a blank, return empty-handed, lose one's pains, labour in vain, have shot one's bolt 641 vb. *waste*

effort; fall, collapse, slide, tumble (one's perch 309 vb. *tumble*; break down, come to pieces, come unstuck; seize up, conk out; stop, come to a dead stop, come up against a blank wall, come to a dead end; stick, stick in the mud, be down, get bogged d. 145 vb. *cease*; come to a sticky end, come to a bad end. 655 vb. *deteriorate*; go on the rocks, run aground, sink 313 vb. *founder*; make a loss, make losses, crash, bust, break, go bankrupt 805 vb. *not pay*.

miscarry, fall still-born, abort; misfire, ha fire, flash in the pan, fizzle out; fall, fall to the ground, crash 309 vb. *tumble*; come to naught, come to nothing, end in futility 641 vb. *be useless*; fail of success, come grief, burst, bust, explode, blow up; fail, prove a fiasco, turn out a frost; not well, go wrong, go amiss, go awry, go agley, take a wrong turn, take an u turn; do no good, make things worse 1 vb. *aggravate*; dash one's hopes, frustrate one's expectations 509 vb. *disappoint*; falter, limp, hobble 278 vb. *move slow*.

be defeated, lose, lose out, suffer defeat, take a beating, lose the day, lose the battle, lose the match; lose the election, lose one's seat, lose the vote, be outvoted; just miss, get pipped on the post; get worst of it, come off second best, go with one's tail between one's legs, lose one's wounds; lose hands down, come last, not win a point; take the count, take the dust; fall, succumb 745 vb. *be subdued*; be captured, fall a prey to, be victimized, retreat, lose ground 290 vb. *recede*; take flight 620 vb. *run away*; admit defeat, one best, have enough, cry quits 721 vb. *submit*; have not a leg to stand on, fall the ground cut from under one's feet downhill 655 vb. *deteriorate*; go to the wall, go to the dogs 165 vb. *be destroyed*.
Adv. *unsuccessfully*, like a loser, to no purpose, to little or no purpose, in vain.

See: 25, 35, 75, 145, 161, 165, 172, 278, 290, 309, 313, 474, 495, 509, 544, 620, 641, 655, 695, 697, 702, 721, 726, 731, 772, 805, 832, 834, 854.

728 Failure

N. *failure*, non-success, successlessness, negative result; no luck, off day 731 n. *ill fortune*; non-fulfilment 726 n. *non-completion*; frustration, slip 'twixt the cup and the lip 702 n. *hindrance*; inefficacy, ineffectiveness 161 n. *ineffectuality*; vain attempt, abortive a., wild-goose chase, futile effort, no result 641 n. *lost labour*; mess, muddle, bungle, fizzle 695 n. *bungling*; abortion, miscarriage 172 n. *unproductivity*; hopeless failure, dead f., dud show, wash-out, fiasco, flop, frost; flunk, no ball, bosh shot, misaim, misfire, slip, omission, faux pas 495 n. *mistake*; no go, dead stop, halt 145 n. *stop*; engine failure, seizing up, breakdown 702 n. *hitch*; collapse, fall, stumble, trip 309 n. *descent*; claudication, titubation 161 n. *impotence*; antilimax, lame and impotent conclusion 509 n. *disappointment*; losses 772 n. *loss*; bankruptcy 805 n. *insolvency*.
defeat, bafflement, bewilderment, puzzlement 474 n. *uncertainty*; nonplus, deadlock, stalemate, stand 145 n. *stop*; lost battle, repulse, rebuff, bloody nose, check, reverse; no move left, checkmate, mate, fool's m.; the worst of it, discomfiture, beating, drubbing, hiding, licking, thrashing, trouncing; retreat; flight 290 n. *recession*; dispersal 75 n. *dispersion*; stampede, panic 636 n. *fear*; rout, landslide; fall, downfall, collapse, débâcle; wreck, perdition, graveyard 165 n. *ruin*; lost cause, losing game, lost g., non-suit; deathblow, quibus; utter defeat, total d., final d., Waterloo; conquest, subjugation 745 n. *subject*.

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