THE EVALUATION OF THE de BONO (CORT*) THINKING PROJECT: SOME THEORETICAL ISSUES

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INTRODUCTION

The CoRT* project to teach thinking as a school subject was written and directed by Dr. Edward de Bono, who contends that the majority of teachers wish pupils to learn to think (or rather that their natural ability may be improved) through the existing subjects in the school curriculum, but that pupils may be able to learn to think much better if the skills and processes involved were identified and taught as such, instead of being left as a vague and hoped for outcome of teaching other things. All that the project offers is a structured framework of what de Bono perceived to be thinking skills that are taught separately and directly through a small group discussion approach requiring no particular information to be learned.

Although most of the issues raised in this paper are common to other project evaluations, the unusual nature of this project does have a bearing on the way in which the issues were perceived and it is therefore necessary to briefly mention some of its features.

Fundamental to the project's peculiarity was its innovative nature; innovative in the sense that it set out to teach a subject not already in the curriculum. Most curriculum projects of the past decade have been essentially reformative; that is they aimed to find a new way to teach something already taught in schools. This is not to suggest that the former projects did not contain innovations, it is to distinguish between the context in which the projects functioned.

For example, in the case of a reformative project (say "Maths for the Maladjusted") the project team would have readily accessible a pool of teachers (in this case teachers responsible for Mathematics and Pastoral Care) who could be contacted directly through the professional journals, in-service courses, by writing to the head of department in particular schools, and through the advisory teachers. Not only were none of these options available to the CoRT project (who is head of the Thinking Department at any school you know?) but the initiation of the project as a feasibility study demanded, not that the project be slotted into a particular subject area for pupils of a particular age (as, for instance, "Geography 14-18") but that it be taught by as many different teachers in as many different contexts as possible over the whole range of ability, organisation and age in U.K. schools, to thus enable the project team, by studying each different situation, to gain some understanding of

(a) where the project in its original form appeared to be of value,

(b) which criteria those involved were using to estimate questions of project "value", "success" and "effect",

(c) what modifications were made to the material to suit it to a particular situation (i.e. six year old children) where the original form of the material was inappropriate.

*CoRT is the acronym for: The Cognitive Research Trust, Cambridge, U.K.

Add to this situation other difficulties, such as the notion that the extent to which the project would "work" would largely be determined by how much the teachers wanted it to work, and then limit project funding to a £50,000 Leverhulme Trust Fund grant paid over five years to support one Research Fellow in the field (i.e. the evaluator) and the magnitude of the problem becomes apparent. Basically, the director had two options, he could:

(a) limit the project to a particular context (Middle School English or Years 3 and 4 primary) and a few schools (ten in London, ten in rural East Anglia), hoping that the context was a good choice (there being no heuristic evidence of previous experience to go by) and that the schools would prove co-operative; or

(b) he could publish the material, following up those who bought it, wherever or whatever their situation or purpose.

The latter alternative was chosen, not only to provide the range of application necessary for the study, but also because publishers' resources would make many of the contacts, and the royalties from sale of the material would help to sustain the project.

de Bono therefore wrote the first ten lessons with just two aims in mind: first that the lessons should teach thinking skills directly and explicitly regardless of the information that was used for pupils to think about; second that the lesson content and method should be but a framework which, although there was sufficient guidance and material for a teacher to "teach by the book", was nevertheless sufficiently flexible for teachers to extensively modify it according to their needs. These first ten lessons were then trialled in 18 schools simply to find out if they met these two requirements. There was no question of trying to produce lessons that were the best way to teach thinking; all that mattered was that they could be used, and so act as a starting point for further development. Publication then extended the use, and the evaluation documented it.

Ironically the very success of the approach became a problem for the project: between January 1974 and December 1977, 2413 schools bought project material from the publishers, and more than two thirds of these were secondary schools. There was no way in which the evaluator could make contact with more than a few of these users. Although all purchasers were circulated by letter and questionnaire enclosed with the material, only 207 (8½%) replied. Of these 23 specified that they did not wish to be involved in the evaluation, 46 offered to carry out research and 162 schools asked for contact and help, offering to report back on the project. Sheer numbers involved meant that very little help or contact could be given. A large sample was inevitable, however, and in all 483 schools made contact with or were contacted by the project through all available channels such as local authorities, teachers' centres, the educational press and conferences.

In order to cope I developed an overlapping sample procedure where a small "inner sample" of about 20 schools (the number varied slightly over the project period) was very regularly visited, lessons were taught and observed, teachers interviewed, and results were assessed on a systematic basis. A much larger "outer sample" of about 80 schools were also visited, or tapes, letters and phone calls exchanged, as time and location permitted. There was a two-way flow of data between the two samples where what became apparent in one sample was also investigated in the other sample.

Although the two samples were to a certain degree self-selected, within both samples I also deliberately sought out, and in some cases introduced the lessons into, schools which were atypical in some respect: advantaged, disadvantaged, urban, rural, new and traditional schools, of which some were for, some against the project. Thus, when the question of, for instance, staff co-operation arose in the general sample, the question was studied in another school exhibiting either good co-operation (team taught integrated studies in an open-plan school), or poor co-operation (lessons taught across a whole year in tutorial periods by edict of the headmaster). This method was employed to enhance the possibilities for "progressive focussing", and as is implicit in the model, when attempts were eventually made to verify hypotheses about aspects such as changes in thinking patterns, matched control schools were drawn from without the project sample. This then is the context in which the following issues should be considered.

ISSUES

(1) THE PROBLEM OF PROJECT EVALUATOR AS PROJECT DEVELOPER

The problem of the extent to which the evaluator should be distanced and separate from the development process was, both in time and importance, the first major issue to be raised. Traditionally, the evaluator would seek contact with the development personnel only in as much as they are useful informants on such aspects as the aims of the project and the objectives of particular units. More recent models, such as Scriven's goal free model, have sought to make separation almost total in that the evaluator should not refer to the development personnel even for information on the aims and objectives that were originally conceived for the project. There are, however, two quite different aspects of distance between evaluator and project that must be considered. First, there is the question of contamination and bias through working with the project. In this respect, although based within the project team, I was also located within the University Department of Education at Cambridge, formally by virtue of reading for a Ph.D. under the supervision of Dr. David Bruce, and informally through continuous casual contact with, and occasional advice from, other members of the Department, and a number of "critical friends".

The second aspect of distancing, however, was the question of whether any evaluator working with a project team can in fact be other than a developer. In practical terms such a notion makes distancing in the first aspect largely irrelevant and in this project the merging of roles was inevitable. Once I had construed my role as evaluator to be that of a researcher documenting teachers' use of a project in which the teachers themselves were largely responsible for development, any information which I collected as evaluator and which I fed back to teachers, was effective project development on my part.

The two roles were further merged by the problematic and open perspective I took of the data collected. Thus, for example, comments made by teachers were fed back to teachers for comment as part of the data collection process. One way by which this was done was by sending bulletins containing the following kind of item to all participating teachers at regular intervals:

Teacher, Comprehensive Girls' School, first year:

> "They did much better on the hairstyle question than on yellow cars. They really investigated it, thought about what'd happen if it got wet; how much attention it'd need in the day; suppose you dyed it? etc.. They do better on things that they know

about. Closer related practice items act as starting points from which they can range quite far. Other questions don't even get them started. I'm just interested in getting them all to take part; some did with yellow cars, but they all did with hairstyles."

What makes one group opinionate and stop thinking, and another group explore a question that is closely related to their experience? Do groups that opinionate in a closely related question explore unrelated questions? Is opinionation a function of pupils' involvement? (May, 1976)

Teachers read the bulletin, thought about the items and made observations about the issues raised in their own teaching and discussed the item reporting relevant observations with me when I visited their school. In the case of the above item, there had been, over the previous few months, some intensive dialogue on the effect of choosing practice items about ideas and situations with which the pupils were already familiar. On the one hand such items gave them lots to talk about, on the other hand they often substituted the production of existing opinions for thought (see Tripp 1979 (c) for an example of this effect). In the above example it emerged that the girls' preference for the hairstyles question was equally a function of their increased familiarity with the project's way of working (and thus the teacher's expectations of them) as it was to do with the content of the practice item itself.

This single example illustrates the nature of the merged roles of project developer and evaluator. In seeking an explanation of a phenomenon I raised a number of questions with teachers, the outcome of which was changed practices (such as spending more time explaining to pupils what kind of activities they would be involved in before teaching the first project lesson) or using practice items more related to the pupils' experience in the early lessons, moving onto more unfamiliar territory later. As evaluator I had collected an artifact, illuminated it and selected an explanation. As project developer I had used an examination of existing practice to change subsequent practice. The question of distancing the evaluator from the development process in the first sense thus impinged on the situation only in as far as the selection of phenomena to explore, the choice of research procedures to employ, and the explanations accepted as relevant. I say "only" because every researcher has a position on these issues, if not an obvious commitment, and I could see no reason why an evaluator should not, by being aware of his commitment, still be able to avoid unintentional bias after the manner of, and to the same extent as the researcher. This is a point returned to later.

The above account of the merging of roles lead to a consideration of the nature of evaluation in "formative" and "summative" terms. It was early recognised that the evaluation would necessarily be formative if any changes were made to the project material or structure as a result of any findings of the evaluation. Similarly, it was seen that an evaluation could only be "summative" when no further action with regard to the project were possible. If, on the basis of an evaluation of the project after the development phase had ceased, a decision were taken to proceed with use of the materials for teaching, the evaluation would inevitably suggest ways in which the project could be made to function more effectively (for instance, with a particular age group, or in a particular context) and that information

would be translated into recommendations that would formatively affect the project thereafter. Even were the decision made to cut the funding and publication of a "summatively" evaluated project, the data on which that decision was taken would be applied to what material was already in use, and would certainly affect other projects formatively.

Cooper (1976) discusses this problem at some length, and his notion of "concurrent" and "subsequent" evaluation was thought to be more meaningful than the terms "formative" and "summative". The difficulty with this, however, is that whereas the tradional role of the project evaluator was seen to be someone distanced from the project development who could make relatively impartial judgements about the value of what was being done, were the evaluator to be seen as a member of the project development team, what would he then do as evaluator?

The answer to this question is a matter of demarcation in expertise and activity. The evaluator should be one with (or prepared to acquire) the expertise necessary for research, whereas others on the team will have other expertise, such as in writing or teaching. The writer will tend to be the one to produce the first drafts of material for the project, and the evaluator will tend to the first one to assess its effectiveness when used.

As the result of his research, however, the evaluator may be the one to redraft aspects of the material, though he will more likely advise the writer; and similarly the writer will wish to check his perception of the effectiveness of the material against the evaluator's, and in so doing he may well wish to carry out his own research and write his own report, or ask the evaluator to investigate factors important to a writer. The point is that the roles are mutually dependent and complimentary,* and deliniation should be more a matter of relative emphasis than rigid categorisation. This was certainly the case in this project where the evaluator often found himself showing teachers how to deal with a problem, and being presented with alternative versions of lesson observations.

(2) THE PROBLEM OF RAPID CHANGE IN EVALUATION THEORY

It is difficult now to recall that when the evaluation was begun in 1973 Parlett and Hamilton's (1976) paper "Evaluation as Illuminative" was an unpublished mimeograph in circulation amongst the few professional evaluators, and Wiseman and Pidgeon's (1972) "Curriculum Evaluation" (coming as it did from the combined resources of the N.F.E.R. and Schools' Council) was the official statement of evaluation procedures. Perhaps as good an indication as any of the changes that took place during the period of the project is that extracts from "Curriculum Evaluation" appeared in "Beyond the Numbers Game" (Hamilton, et al., 1977) as part of a historical perspective entitled "The Objectives Model Revisited." With this background in mind it is hardly surprising that the eventual form of the evaluation evolved as the project progressed, and very little proved to be immutable in the planning. In fact, what planning there was resulted from a beneficial tension between the project director's insistence that a "feasibility study", not an evaluation, was required, and the evaluator's considerable ignorance of evaluation procedures at the outset combined with his personal commitment to producing appropriately and well researched information however it was perceived or to be used.

* Subsequent to first writing this paper, I find the same issue contended by Hamilton and Williamson (1979), and I am grateful to David Hamilton for sending me this paper.

With regard to the rapid revolution in the theory of evaluation I can now in hindsight quite clearly see four major decisions which were made over the first two years: the rejection of two current notions and the espousal of two others which are still being worked out.

Two Rejected Notions

The first rejection was of the current notion in evaluation made by MacDonald and Cooper in Tawney (1976) that there is a necessary distinction between evaluation and research, and that this distinction is the outcome of a hypothetical freedom for the researcher to choose the topic of his research whilst the evaluator is limited to a particular pre-determined area. In fact, of the evaluator and researcher, the latter actually has less freedom in many respects. For in the evaluator's case the funding authorities appoint someone to a particular task, and in the researcher's case someone applies to the authorities to be appointed to a particular task: the control of the funding authorities is equal.

The difference, if any, is in favour of the evaluator: his work is funded as a necessary part of a whole package, he is more often than not appointed more on reputation than his proposal, and when he works it is recognised that he will pursue what he considers to be the important features of the area under scrutiny. The researcher, on the other hand, is handicapped from the start by having to make a highly predeterminate, specific and detailed application. In most cases this means stating hypotheses, theoretical background and methods to be employed before he has begun his funded work. Like the evaluator his area of study is only approved if it fits with the funding authority's notions about what is a legitimate topic, but furthermore the authority has to approve the method and theoretical background. If funded, the researcher's final report very often takes on the appearance of "the proposal with results tables appended" (a description I believe I owe to Malcolm Parlett), for there has been no room for formative development. This kind of requirement is infinitely more restricting than the evaluator's initial limitation to a particular area.

My aims for the evaluation in this instance, then, were to perform "good" research first and foremost and secondly to present findings, conclusions and evaluative judgements in such a way that others could make judgements upon the value of the project and, equally important, upon the quality of the evaluation itself.

The second notion that was rejected is allied to the first, but concerns the nature of "good" research. The primary purpose and method of research in Education is still most often seen to be the verification of hypotheses. This was rejected in favour of the view derived from Glaser and Strauss (1967) that some research should generate hypotheses. In fact the prespecification of hypotheses was seen as a particularly undesirable restriction to this evaluation, as the project was in an area where there were virtually no existing hypotheses or theories.

The common requirement for a researcher to form testable hypotheses before embarking on the research may be seen as a disabling feature of much research in general, entailing as it so often does the production of hypotheses from existing theories, rather than from new observations of and ideas about the actual phenomena to be investigated. If a researcher produced a proposal where hypotheses had been generated from systematic observation itself unguided by predetermined hypotheses, he would almost certainly have done so in his own time and at his own expense, for it is very unlikely he would be funded simply to study phenomena in order to generate hypotheses. Perhaps the reason for this may be that the authorities fear he will generate none; but more likely it is because his proposal would read like no

proposal at all (e.g., "To study teachers teaching").

The purpose of the evaluation was viewed as the provision of as accurate an account as possible of what happened when the project was used. Such an account could not begin from prespecified hypotheses, but it was bound to raise many unanswered questions about which it would be legitimate to generate hypotheses, some of which might, in the course of the evaluation, be further investigated. This further investigation was seen as a crucial stage and goal of the evaluation and I took issue with those such as Glass and Worthen (1972) quoted by Cooper (1976, who suggest that the aim of evaluation is not to produce explanations:

> "....we do not view explanations as the goal of evaluation. A fully proper and useful evaluation can be conducted without explaining why the product or program being evaluated is good or bad, or how it produces its effects. This is fortunate since evaluation in education is so needed, and credible explanations of educational phenomena are so rare. ...."
>
> Glass & Worthen, 1972, quoted by Cooper 1978, p.8.

The point is that it is precisely the <u>why</u> and the <u>how</u> that informs what happens. Why something is judged "good" or "bad" is very much a question of how events originated. Unless a linguist, for example knows why a child produces an error ("I runned") he may misjudge the value of the event: the origin of the error in the example is termed "virtuous" by linguists because the child has erred by employing the "right" general rule on an exception.

The aim of the evaluation in this respect then, was not to provide a single explanation, but to search for and document many explanations; some of which were pursued to the limits of the evaluator's expertise and resources (see Tripp 1978, 1979 (a)) for example.

This is an important change of emphasis, though not a necessary distinction between evaluation and research: a perusal of an account of the application of the hypothetico-deductive method in educational research (see for example Entwhistle's account in the Open University course material on Educational Research) shows that it should begin with the observation of phenomena. It is the bureaucratic requirement for a particular type of proposal that is largely to blame for the lack of documentation of classroom phenomena and hypotheses about teaching as such, and equally to blame for the surfeit of data on relevant but nevertheless peripheral issues, such as the effect of social class on streaming, or I.Q. and attention span which Wilson (1972) characterises as Educational Research with a small 'e'.

<u>Two Notions Accepted</u>

The first of the two notions to be espoused in the evaluation studies was the cyclic nature of the move from a very open-ended observation to the detailed investigation of particular phenomena, the outcome of which were then related to the original and subsequent observations. The process was termed "progressive focussing", a phrase first encountered in the report to come out of the first Cambridge Conference on Evaluation (MacDonald & Parlett, 1973).

As an example of progressive focussing, it was earlier noticed that several teachers were commenting upon an apparent reduction of cognitive impulsiveness in some children: some pupils appeared to be less inclined to jump to conclusions, to produce more possibilities and select from those instead of adhering

to the first idea that occurred until forced off it. The comments were very general: "They (the pupils) don't seem so fixed as they were, they seem to think more about things, round them I mean); somehow they are less dogmatic." When a number of such comments had been recorded the evaluator made a point of asking teachers and pupils about the way they made their minds up, and two factors emerged: they took longer and they were more tentative. Both of these factors eventually were subjected to extensive empirical testing to determine the nature and extent of the hypothesised changes (Tripp 1977). However, as is now recognised by some to be usual in testing, the figures raised more questions than they answered.

Progressive focussing is not a new approach to research in that the process has been taking place in every established field of scientific research since it originated: it is new, however, to treat an evaluation of a microcosm of that general research endeavour, attempting to bring an endlessly protracted and ongoing cyclic process to useful conclusions in the brief space of four years.

The second notion to be espoused was that the evaluation should have a set of guiding principles: these emerged and were modified as the evaluation proceeded, perhaps only being clearly related and articulated in the writing of the final report. At the end of the evaluation there were six guiding principles, the first of which was by far the most important.

1. To maintain an Educational Perspective. Walker (1976) makes the point that it is very difficult to define an educational perspective, and this may well be part of a larger problem about what constitutes the "Educational" component of the parental disciplines (Psychology, Philosophy, Statistics, for example). It is my contention that a specialist of the parental disciplines (Psychology) lecturing or researching in Education (i.e. Psychology of Education) sees Education from the perspective of his specialism (i.e. a Psychological view of Education) rather than seeing his specialism from an educational perspective (i.e. an educational view of Psychology) as a teacher might.

A possible rule of thumb that may help one to determine whether the perspective is educational or not is to ask two questions:

(a) is the research context specifically educational (e.g. schools); or does it have more to do with the young in general, most of whom happen to be in education because that is what we do with them?

(b) whose practice will be most informed by the research outcomes, professional educators, or specialists within the parental discipline?

Only if the answers to these questions show that the context is primarily educational, and that it is the practice of professional educators which will be most informed by the outcome, is the perspective likely to be "Educational".

As a guiding principle the notion of an educational perspective served to limit the further investigation of certain hypotheses, not because they were unpromising, but because, within the tight constraints of time and manpower, they were not clearly high priority educational considerations. Thus when the question arose as to possible effects of social class upon cognitive impulsiveness and some data suggested that pupils from lower socio-economic groups may be more impulsive, the strength of a relationship was not investigated, as the value of the information that a significant relationship did exist (if one were to exist) was of little value to a teacher who did not know which method of teaching the lessons was most likely to affect cognitive impulsiveness in the first place. The hypothesis that a

relationship existed would have been, incidentally, much easier to investigate than the question of teaching method, simply in terms of available instruments and the number of variables, but it would have been more to do with the young in general, informing social psychologists rather than professional educators and thus a social psychological perspective, not an educational one.

2. To Provide a Balanced Account. Having read a little sociology I realised early on that truth being multiple, one could never achieve a single "objective" point of view, nor would one necessarily want it. On the other hand, I felt that too much could be made of consensus,particularly in the sphere of curriculum development where the active agents for change are in a minority. That minority may well have a more "objective" view than the majority who never question their practices, as Benjamin (1939) suggested in his "Sabre Tooth Curriculum". The aim then, was to provide an account containing multiple prospectives one of which was my own.

As MacDonald (1973, personal communication) said, one of the functions of an evaluator is to "tell the story" as he sees it, and in so doing he should take account of his own preferences, opinions and experiences. This "taking into account" so often simply is seen as a matter of stating ones "commitment" before proceeding to give a biased picture (see for instance Johnson & Johnson, 1975). In other words, the author having stated his preference feels sufficiently absolved to indulge it. When I realised how much I supported the project's aims I tried to counterbalance my commitment by producing alternative explanations for, and accounts of, phenomena, a kind of single-handed "Advocate/Adversary" approach (Stake, 1971). When I came to write up, however, I attempted to fuse the two, but the extent to which I succeeded at either that fusion or in maintaining a reasonable balance must be for others to judge.

Faced with the problem that it is notoriously difficult to achieve anything like objectivity when reporting and observing incidents in classrooms (see for instance Elliott et al, 1976) I realised how important it was to treat the observed and other teachers' comments as a source of data, and to this end spent much time just talking to teachers in particular schools and taking lectures and workshops at teachers' centres. By recording and transcribing the talks, questions and discussions it was possible to document both how the project was perceived and the kind of information required by teachers to help them in their teaching, development and judgement of the project.

3. To Be Responsive to Procedures and Events. The evaluation aimed to be responsive in two senses: first in Stake's (1972) sense, to be responsive to the audience's (mainly teachers') needs and demands. In a second sense the evaluation aimed to be sensitive to its own procedures, assumptions and effects; an ongoing evaluation of the evaluation, one might say. In this respect I constantly asked such questions as, "Are the criteria by which I have decided to investigate this aspect the right criteria?" Similarly, I questioned the reliability of observations and the validity of instruments.

Also to do with the second sense in which the evaluation aimed to be responsive was the fact that lines of inquiry which seemed appropriate at the time of initiation were not necessarily the most appropriate at a later stage of the evaluation, and more important than carrying a particular starting point to its conclusion, was a sensitive awareness to pattern and change through constant monitoring, and an accompanying readiness to change plans when necessary, even when the result was unfinished experiments and incomplete data.

4. To Develop The Project. Having previously worked on a project that was "subsequently" evaluated, I was anxious that, being concurrent, the evaluation should affect the nature and direction of the project. With this and the next principle in mind I spent a quarter of my time in the first year of the evaluation teaching the project in as many different situations as possible. This turned out to be time exceedingly well spent for my own knowledge of the material, and hence for the practitioner's perspective in the evaluation. However, because of extraneous factors the evaluation was entirely ineffectual either in contributing to the published form of the existing project or to the production of a new generation of material, and so the purpose of this key principle was never realised.

5. Participation. I felt that it was important to involve as many other people as possible in the evaluation for two main reasons. First, there was only one of me, and unless I utilised help from others, mainly the teachers themselves, there was no way I could have covered more than one or two of the many ways in which the project was used. Second, I hoped that by involving others I would be contributing in a small way to the professional development of the classroom teacher in particular. I therefore made efforts to ensure that involved teachers understood, used and had a say in the procedures used. In the event the policy paid dividends in two main ways: teachers made very clear the kind of information they required and so helped develop the evaluation; and the problems of sustaining interest communicating ideas and informing teachers were minimised.

6. Intelligibility. Anyone writing a report writes with a particular audience in mind. It is unfortunate that too often in the past the audience evaluators have had in mind as been other professionsl evaluators or researchers. It seemed to me that one would not gain much involvement or modify an individual teacher's impressions unless reports were above all readable. It is of little use to qualify a statement with all the ramifications and factors affecting it if by so doing one excludes the majority of the audience. I found that by making short, early, clear and fairly bald statements, reports and bulletins were read and often discussed. I could in the ensuing dialogue fill in the relevant details and considerations of an issue, and in this way gained much more feed-back than would have been possible had statements been generally unread or simply accepted.

CONCLUSION

If I had to nominate from the issues and experiences of the evaulation two aspects of most general application, I would choose the difficulty of deciding just what to investigate, and perhaps most important the continual development that was necessary throughout the duration of the project. With regard to the first aspect, one of the problems of this, and I presume any other, evaluation was the difficulty of distinguishing those features of the project which were peculiar to this project in particular, and those features of the project which were common to any attempt to innovate. For instance, although from the first the singularity of this project was apparent, it very soon became clear that where the project appeared to succeed there was a strong commitment to it by the teachers concerned. Now it would have been interesting to document and explore the relationship between teacher commitment and project success, but this was not persued because the relationship was found to be common to most other projects (i.e. the Humanities Curriculum Project; the Keele Integrated Studies Project; the Moral Education Project). With limited time and resources this relationship was assumed, for it could only have

been investigated in depth at the expense of the investigation of other features peculiar to this project alone.

Recommendation 1: There is an urgent need to draw together from the many project evaluations of the past decade those features which are likely to result from any attempt at innovation regardless of its nature or context, which occur simply because the innovation process itself has certain effects. The confusion of this area is well illustrated by tables 6.2; 6.3; and 6.4; in Eraut (1976) which show the partial and incoherent coverage of common aspects of recent evaluations. No doubt a similar exercise on Australian evaluations would reveal a similar pattern of incoherence.

The second aspect becomes very apparent when I look back on the narrow, simple minded and uniformed scheme I first produced for the evaluation in 1973, and it now seems quite impossible that the procedures and ideas outlined in this paper could ever have developed from it. I realise that one of the effects (and purposes?) of hindsight and review is to rationalise, make coherent and simplify trends and events that were too chaotic, complex and embryonic to be successfully documented at the time, and a great deal of hindsight has gone into this paper. For the reader to gauge the overall development, however, he could compare de Bono's 1978 account of "research" on the project (some of which I performed in 1973 and 1974) with the following papers written in the middle and at the end of the project: Tripp, 1977, 1979 (a), 1979 (b), 1979 (c).

The evaluation appeared to develop an autonomous life of its own, becoming self-determining as the actual progress of the research demanded certain strategies which could not have been forseen, and thus could not have been predetermined.

Recommendation 2: If there is a single point I would hope to have made in this paper, it is that authorities which wish to see useful educational research performed, must take researchers much more on trust, accepting more general proposals with strategies for responsive development written into them. So also, funding authorities should consider a project of which the end products are "merely" improved research methods and useful questions (rather than rigid application of existing methods to existing questions) good value, especially in view of the present fluid state of the art.

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