The development and evaluation of an introductory course in behaviour therapy for psychiatric nurses

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NORTHAMPTON
The Rehabilitation Wards,
Carlton Hayes Hospital,
Leicester.
The Development and Evaluation of an Introductory Course in Behaviour Therapy for Psychiatric Nurses.

by

Derek Leslie Milne

A Doctoral Thesis

Submitted in partial fulfilment of the requirements for the award of Doctor of Philosophy of the Loughborough University of Technology, June, 1983.

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Supervisors

Dr. Ray Maddis
Dr. R. Keith Turner
The long-stay psychiatric patient represents one of the major problems to the N.H.S. and to hospital staff. On the one hand there are the multiple 'problems' as presented by the patient, such as loss of basic self-help skills and the development of inappropriate behaviour; on the other hand there is the 'institutionalizing' hospital system, which often seems designed to nullify staff initiatives intended to 'rehabilitate' these patients.

This parallel, between the predicament of staff and patients, is associated with the general absence of any systematic programmes that promote the 'rehabilitation' of either group. There is, therefore, a profound and depressing atmosphere in these 'wards'. This seems to have removed any interest in a thorough examination of the issues, far less have promoted a systematic attempt to alter matters. One is reminded of 'depression' and 'learned helplessness' by the prevalent apathy and inertia.

The research reported in this thesis represents an attempt to deal with both points. Firstly, however, there is an analysis of the Psychiatric Hospital, in terms of the difficulties presented in researching and intervening in that context. This illustrates, from such perspectives as patients' problems and nurses' roles, the complex nature of this system. It leads to the adoption of an 'ecological' orientation, which is then reflected throughout the research.

For example, this perspective dictates that attention is focussed on the environment and particularly its social features. As the nurses are the main social agents in long-stay rehabilitation wards, they occupy a key position amidst the interdependencies of this complex social system. This position is elaborated below in terms of the findings and predictions deriving from a behavioural analysis. In turn, this suggests the importance of making nurses and not patients the initial focus of an intervention.

Following a review of literature concerned with previous attempts to apply this 'triadic' model, and more generally to innovate, there is a detailed analysis of the nurse training research. This clearly shows that very few studies have even approximated to the degree of rigour associated with other topics in the behavioural literature, and that there remains a great need to thoroughly evaluate the effects of applying this model within a British Psychiatric Hospital. In addition, issues such as the maintenance and generalisation of training effects need to be evaluated.
To this end, a series of related experiments were arranged. These examined a broad range of consequences attributable to the in-service training in behaviour therapy. Amongst these were short-term effects on the nurses' attitudes, knowledge and skill, and the longer-term effects on their patients and colleagues. A very broad evaluation net was cast over these different 'elements' of the hospital and rehabilitation system, and measurements were made in keeping with the ecological perspective. These included structured and naturalistic observations of nurses, patients and their interactions, repeated checklist assessments of patients' problems, and follow-up evaluations of the nurses' learning. Psychologists, Psychiatrists and Nurses were involved in carrying out these various assessments using questionnaires, interviews, observations, ratings and archival records.

The independent variable that was the object of all this evaluation was the training in behaviour therapy given to the nurses. In the first experiment a 'structured learning format' was evaluated. Although it resulted in significant knowledge and skill improvements, there was little implementation of the techniques with patients. A matched control group excluded threats to the internal validity of this finding. A revised training was therefore introduced in experiment two, and this achieved comparable results during the course and far greater rates of implementation. This course was 'project-centered' and so provided for greater skill generalisation. Furthermore, the skills used were of a high order and were clinically effective: a wide range of patients excess and deficit problems were ameliorated, sometimes dramatically.

The second major theme supplementing this direct evaluation of the training were a series of indirect assessments of training impact. These included, as experiment three, an investigation of the dependability of naturalistic observations in the ward, followed in experiment four by an evaluation of the generalisation of training effects using this and other methods. The behaviours of patients and nurses separately and in interactions were studied by observation during a normal, unstructured period of the ward day. The results indicated little by way of a clear effect when 'trained' and 'untrained' nurses were compared. However, significant generalization effects were found in terms of the 'pyramid training' of students by nurses who had completed the behaviour therapy course, and the nursing notes also became more objective and behavioural for this group. Both findings were attributed to the course, since control groups showed no such effect.
The main characteristics of this work was regarded as its attempt to confront a major and complex social problem with a rational, empirical approach. This necessarily entailed an 'experimental social innovation' model, rather than forlorn attempts at rigorously controlled research. 'Applied research' of this kind has frequently been regarded as "a pardonable perversion" (Baddeley, 1979), a mere distraction from the demands of nonsense syllable research conducted in laboratories. This piece of research (or evaluation) sets out to instance one way of entering the complex and largely 'uncontrollable' world outside the laboratory, and yet of maintaining some of the major features of a psychological analysis when faced with a 'real' problem. The obtained results suggested that this was valuable to the science and the subjects.

Perhaps the defining characteristic of this thesis was, therefore, the emphasis on a broad evaluation which synthesised data from such apparently disparate sources as nurse training methods and innovation strategies. This synthesis was not anticipated in the original research proposal, but arose out of the introduction of the training course. Thus, in addition to detailing this training in terms of instructional devices and multiple outcome measures, as the intervention developed there was also a need to study the adoption of this innovation, and to develop strategies for evaluating the adoption or generalisation phenomenon.

The fruits of this broad analysis were regarded as the social or 'ecological' validation of a course of training in behaviour therapy, a comprehensive approach to intervention or programme analysis in a hospital setting, and a revised conceptual framework for staff training.
The context of this work was Carlton Hayes Hospital, Leicester during the period 1980-82. My gratitude to the staff and patients of the seven rehabilitation wards is mixed with a complex of other feelings. For example, I am also astonished at their tolerance and perseverance, and thank them all for permitting the innovation to occur and persist: many substantial changes were invoked, and must have seemed, initially at least, to be directed by an alien force.

The individuals who must be singled out from this group for particular thanks and appreciation include Dr. Norman Kaye (Consultant Psychiatrist), Mr. Gordon Sivewright (Divisional Nursing Officer), Miss Rose Maud and Mr. George Barnsley (Nursing Officer).

I received invaluable support from Charles Burdett, my colleague during the period of this research. It was he who pioneered, in his somewhat grandiose way, the whole scheme, and who lured me to Carlton Hayes to undertake the nurse training component. It is a mark of my regard for Charles and his qualities that, despite the 'slings and arrows' that this involvement entailed, he remained a good friend.

Just as I was effectively helping Charles to implement this scheme, many others supported me. John Beckett (Leicester University) was an invaluable guide and assistance in statistical and computer matters, and was another figure who showed outstanding tolerance and benevolence. Several undergraduate psychology students provided voluntary assistance (Amanda Hodd, Sue Potter, Helen Edgar, Clare Watson, and Nick Jones), conducting observations and scoring tests, amongst other helpful tasks.

Within my department, Dr. Keith Turner maintained a brave face and offered helpful criticism despite, I sometimes thought, his disbelief and misgivings regarding the scale and scope of our work. My academic supervisor, Dr. Ray Meddis, also assisted with timely suggestions.

The Leicestershire Area Health Authority (now District) provided approval and financial support for the research and this was continued by Wakefield District Health Authority when I moved there at the end of 1982. I hope this work provides some recompense for their assistance. I was assisted by my colleagues in both places, particularly by Mike Corp, Angela Holland and Gwyn Fraser.
Finally I am grateful to my wife, Judy, for her graphic art work and enduring commitment. Eileen Greaves must be complimented on her speedy and masterful translation of my writing into typescript.

The responsibility for the design and evaluation of this nurse-training research is mine, but the implementation was shared with Charles Burdett, at that time Senior Clinical Psychologist specializing in Rehabilitation and based at Carlton Hayes. Charles furnished a number of ideas and materials and these are acknowledged in the text, but the methodological planning and execution was carried out by myself. One aspect of the execution was heavily dependent upon the assistance of John Beckett, who helped in the computer analysis of data and advised on statistics. Details of the overall rehabilitation scheme and the location of the nurse training venture within it have been presented by Charles Burdett at National Conferences (Burdett, 1981; 1982).

Some of the data in this thesis have also been presented at National Conferences. In 1981 a paper was given to the Annual Conference of the British Association for Behavioural Psychotherapy (B.A.B.P) reporting experiment one. Subsequent papers have been given to the B.A.B.P. Annual Conferences of 1982 and 1983 concerning experiments two and four. In 1983 a paper was also read at the Annual Conference of the British Psychological Society, detailing the skill assessment instruments. An article that represents the pilot study for this research was published in Behavioural Psychotherapy in 1982. It is mentioned in the first chapter, where other aspects of the ground work are described, and the full article is in appendix 28.

The first experiment has been accepted for publication in the British Journal of Clinical Psychology, and an article describing the ecological perspective outlined in Chapter 8 has also been accepted, for Behaviour Analysis. A number of other articles have been submitted to journal editors. These refer to the other evaluative studies in the thesis.
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CHAPTER 1
"INTRODUCTORY OVERVIEW"

"We shall not cease from our exploration
And the end of all our exploring
Will be to arrive where we started
And know the place for the first time"

(T.S. Eliot)
1. INTRODUCTION

There are a great number of important questions that can be addressed in the psychiatric hospital. They relate to a number of disciplines, including sociology and psychology and to a vast range of issues. These include aspects of patients, staff and hospitals.

It is a truism that in such complex 'real-world' contexts these aspects interact. The consequence is that simple analyses that by definition ignore these relationships are of little value. On the other hand, it is necessary to restrict our investigations to answerable questions.

The selection of these questions is a difficult task, not least since the complexity of the large hospital obscures the kind of simple, lawful relationships that are most readily suited to research analyses. The strategy pursued here was therefore one of asking questions raised by service demands and by the research literature, but in a manner that provided data on this complexity. Indeed, if this research has a defining characteristic it is a concern for the 'ecology' of the hospital, that is, the broad relationship between an intervention and its consequences, in terms of multiple parameters.

The 'intervention' was a nurse-training programme which had as its long-term goal the rehabilitation of chronic psychiatric patients. Whereas some relatively simple questions can be asked of nurse-training, the siting of this research within a 'total institution' made it possible to conduct a comprehensive evaluation of the training which raised issues that were far from simple.

The aim of this chapter is to outline some of the factors that effectively shaped and provided the context for the research. These included questions and recommendations from formal bodies concerned with rehabilitation, particularly those representing nurses; and also those coming from within clinical psychology. In addition, there were existing commitments to provide in-service training for nurses in psychology. These factors combined to produce a strong case for nurse training in behaviour therapy with respect to the long-stay psychiatric patient. This chapter summarises this argument, linking it to some methodological issues prior to a restatement of the research aims.
2. THE CASE FOR NURSE TRAINING IN BEHAVIOUR THERAPY

There now exist a number of recommendations regarding the provision of services to the long-stay, 'rehabilitation' patient. These include formal documents, such as The Report of a Working Group on Organisational and Management Problems of Mental Illness Hospitals ('Nodder Report') (1980), which stated that every qualified nurse has "a professional responsibility to keep abreast of current clinical practice. Equally it is the responsibility of management to provide the means and opportunities for staff to do so" (p.45, 8.1). 'Current practice' includes behavioural approaches to rehabilitation. Evidence for this is also given in the Zangwill Report (1980).

The Nodder report further stated that the charge nurse is responsible for setting objectives and to "assess and monitor standards of nursing care in the ward" (p.45, 8.5), and that Health Authorities are responsible for optimising staff training (p.49, 8.18). The Nodder Report recognises the "stimulating challenge" and guidelines that behaviour therapy offers to the task of setting ward objectives and assessing and monitoring change (p.19, 42), and the report of the Royal College of Psychiatrists (1980) also notes the value of behavioural assessment (p.10). This report goes on to emphasise the importance of staff training in such areas as assessment, goal-setting and monitoring. It is recommended in the report that clinical psychologists have a central part to play in teaching and supervising these techniques (p.24, iv).

In addition to 'assessment' benefits, the Nodder Report notes that behaviour therapy programmes run by psychologists and/or nurses have "greatly assisted" patient improvement (p.65). The Working Party go on to state that every psychiatric hospital needs a broad-based rehabilitation scheme (p.65), and has recommended that every Psychiatric Service Management Team "should have a well thought-out and documented programme setting out its aims for the long-stay patients in its care" (p.67). As the Zangwill Report indicates, this programme should include an emphasis on staff training schemes biased towards skill acquisition (p.32, 99), possibly organised and run by non-nursing professions (psychology and psychiatry principally) (p.32, 98), and which are followed by continuing evaluation of skill and supervision, (p.31, 101).
In addition, the emphasis on behaviour therapy, amongst other novel approaches such as the 'nursing process', has been incorporated into basic nurse training (GNC, 1982) and into an advanced role (Marks et al., 1977). These amount to a "quiet revolution" (Bridge et al., 1981) in the education of psychiatric nurses. These authors conducted a nationwide survey in which district nursing officers were requested to prioritise different topics. Behaviour therapy was identified as a priority by 38% of respondents, and was ranked third. It was concluded that only with training in such topics "could nurses play their key role and help to improve the quality of care" (Bridge et al., 1981, p.144).

From within clinical psychology there is a growing recognition of the need for thorough evaluations of technological developments such as nurse training in behaviour therapy. However, systematic evaluation in this area, as perhaps in the general field of clinical psychology, are "notable for the large number of people in favour of doing them and the small number of people who actually try" (Zusman and Ross, 1969, p.352). In an article arguing for a broad 'ecological' perspective on evaluation, Bernstein (1982) recommended that future research in staff training should focus on generalisation (particularly across settings, behaviours and subjects) and on training procedures which compare the efficacy of combinations of procedures, amongst 'other topics'. The general lack of a moderately sophisticated research literature on staff training contrasts with other areas of interest in behaviour therapy (Loeber and Weissman, 1975), and so these 'other topics' cover the range of traditional issues, such as the maintenance of results across time, subject variables, and the relative effects of different treatments (i.e. trainings). Against this background, Bernstein's (1982) recommendations are in advance of the general clinical field, not simply research concerned with staff training. Chapter 4 provides a detailed analysis of the literature relevant to this point.

Supplementing the documents referred to above, which recognised the need for in-service training and recommended that it should include behaviour therapy, there has been a general trend towards the development of this mode of training. This is exemplified by the post-qualification courses overseen by the Joint Board of Clinical
Nursing Studies (JBCNS, 1980). Courses now exist for teaching behaviour therapy in relation to adult out-patients, (JBCNS Course 650), psychiatric rehabilitation (JBCNS Course 655) and mental handicap (JBCNS Course 820). These are intensive eighteen month courses that are intended to prepare nurses for an autonomous professional position in these fields (Marks et al., 1979). These authors pointed out that such role development has typified the nursing profession's response to useful diversification, e.g. as in the District Nurse. Specialisation has also occurred in traditional medical spheres, such as intensive care and anaesthetics.

The 'nurse-therapist' reflects a similar specialisation, also of potential benefit to both patients and the nursing profession. The benefits to the patients derive from the increased availability of therapists with a training in behaviour therapy, one that is at least as good as that received by most clinical psychologists (Hall, 1971; Bender, 1976). For the nurses there is the logical progression into therapy, with results equivalent to those obtained by psychologists (Ginsberg and Marks, 1977). From the perspective of the N.H.S., there is the advantage of arranging or financing shorter and less expensive in-service training and of providing a better service through increased manpower. Nursing is a large enough profession to supply this manpower, as training two hundred therapists over the next ten years would involve an expansion of only 1% of current psychiatric nurses, in contrast to an expansion of 28% of clinical psychologists (Marks et al., 1979).

The development of these and other post-basic in-service training schemes has represented a "quiet revolution" over the past two decades (Bridge et al., 1981, p.141). This revolution consists of both an expansion of training opportunities and an onus on the transmission of techniques. The watershed may be dated from Nuttals (1965) statement of the need for new skills and the establishment of the JBCNS in 1970. There currently exist twenty-two specialised JBCNS courses in psychiatry, either leading to a Certificate, through longer courses such as in nurse-therapy, or shorter courses leading to a Statement of Attendance.
In spite of this national trend there were problems in both the implementation of JBCNS courses and in the provision of a substantial improvement in the specialised manpower position (Bridge et al., 1981). In addition to this lack of specialists, whether psychologists or nurses, there was a general absence of in-service training schemes for non-specialists. As it was clear that these unqualified and learner nurses were the major caregivers and therapists in hospitals, it became worthwhile to develop ways of providing an appropriate degree of behaviour therapy training for them.

The author's initial attempt at providing this training took place in a mental handicap hospital. The prior role of psychologists in this institution was to make therapeutic contribution via the provision of 'programmes' for individual, problematic patients. These would typically be brief, focused interventions, and perhaps not involve the psychologist in carrying out any direct assessment or treatment with the patient. Rather, the nurses would mediate this, drawing on the psychologist's advice. This approach has been referred to as the 'triadic model', and is elaborated in Chapter 3.

One of the few disadvantages of this approach is that its use as described above still entails inefficient use of the specialist's time. Thus, instead of training one nurse a group could be trained; and instead of focusing on specific and often rare problems a more fundamental series of learning objectives could be articulated. This perspective therefore afforded some obvious possible benefits to nurses, patients and psychologists.

In order to determine the value of the alternative, group training model, two in-service courses were organised and run by the author in this hospital. The courses also represented evaluations of two basic training formats, the 'active' learning-by-discovery, and the 'passive' traditional modes of lecture and discussion. The results were favourable, as was the nurses' response to the 'active' format. This experience effectively became the 'pilot study' for the present research. An article describing the study (Milne, 1982) is in Appendix 28.
This 'active' learning experience for the author was then extended in the rehabilitation sector of a psychiatric hospital where there had already been several years of planning and assessment, and where there was an imminent need within the scheme for an in-service training in behaviour therapy (Burdett, 1981, 1982). For the next two years the author was the protagonist of the nurse training side of this scheme and it was during this period (1980-82) that the present research was conducted.

3. RESEARCH CONSIDERATIONS

Research in such settings as the large psychiatric hospital implicates a range of issues. From the perspective of research traditions in clinical psychology there is a gap between applied research as conducted and as reported: articles in journals, and perhaps to a lesser extent papers given at Conferences, maintain an image of precision and control.

The political, personal and environmental problems which precede and continue to impede the research are rarely stated (Clarke et al., 1972; Repucci and Sanders, 1974). The world of the journal paper and that of the institution become "two separate realities" in which treatment evaluations become very complex and entail compromise (Berger, 1975, p.96). This creates difficulties for the researcher, who has typically been trained to function in a research world that exists only in text-books. He expects, for instance, ready and willing participation from subjects, truly random samples, no drop-outs or refusals to arrive for final evaluations. However, the compromise need not entail the complete abandonment of the research ethic, and the task becomes one of evolving scientifically respectable "coping strategies" in these difficult circumstances (Kraemer, 1981).

Another factor that is relevant to research and is prevalent in institutional settings is the low staff to patient ratio. The national figure considered to represent 'emergency cover' is 1:15. In the present hospital this was regularly not achieved. Although the mean number of nurses per session, based on a random sample of fifteen dates between April and October, 1981, was 2.4 nurses, it was common to find only one nurse on duty (see Chapter 12 for further data). These low ratios
are a good example of the great need for maximum manpower efficiency, and of the constraints operating against research aimed at increasing this efficiency. Yet it is in these contexts that the pressing social problems occur and equally where the solutions must be sought. It has been argued that we are entering the 'applied revolution' or 'technology' phase in behaviour therapy (Guerney, 1969) where applications and technology are required, and we need to respond to this need, for:

"although claims of the success of applied behaviour modification as a vehicle of institutional and individual change are widespread, convincing empirical evidence is limited to laboratory and to highly financed, small demonstration projects. Thus, the usefulness of behaviour modification techniques in natural settings is unclear"
(Repucci and Saunders, 1974, p.658)

This new frontier centers on the application of techniques to populations greater than one, in natural settings. Only in this way can we tackle the "disturbing gap" between research and practice (Wilson, 1982, p.291) and truly enter what has been described as professional "young adulthood" (Hersen, 1981, p.11).

It should be noted that behaviour therapy, in comparison with other domains of applied psychology, has been making continuous and outstanding efforts to bridge this gap (Kazdin, 1979), while evolving a functional autonomy that persists in stressing control and rigour, but in generalisable contexts (Bandura, 1978).

Within the field of applied research, outcome evaluations have proved particularly difficult to execute but have not deterred researchers (Kazdin and Wilson, 1978). There has even been an energetic expansion of outcome criteria for treatment evaluation, most particularly into direct observation of targeted behaviours. This has led to a commensurate sensitisation of researchers to the complexities of evaluation and the contexts in which it occurs (Kazdin, 1979). They may also be increasingly cautious about the life expectancy of any hard-won, innovative developments. Despite remarkable demonstrations of the advantages of a social-learning approach to the treatment of
chronic, institutionalised patients (Paul and Lentz, 1977),
including such findings as clear cost-effectiveness advantages,
government funding was withdrawn. This is by no means an isolated
example (cf. Liberman, 1980) and is one obvious reason for
preferring laboratory work. A more 'constructional' approach
(Goldiamond, 1974) is to adopt an experimental orientation to these
wider social issues (Stolz, 1981).

On balance, however, the relation between 'applied' and
'laboratory' research is less clear-cut and somewhat contrived,
and developments in either area are likely to produce valuable
influence on the other. This seems especially true of the behavioural
school, and it is in this emerging tradition that the present work
draws on institutionally untested and "contrived" studies (Spevack
and Gilman, 1980, p.37), and evaluates them in this demanding context.
The details of this interplay are provided in the relevant chapters
and are regarded as one of the major features of this 'action'
research' (Town, 1973). Another aim was to overcome the tendency
to focus on socially important problems at the expense of scientific
rigour: within the mental health field there have been a large
number of studies that have been important, but have clearly lacked
rigour (Braun et al., 1981).

In attempting systematic evaluations of nurse training, it is
worth considering some of the scientific constraints that apply:

In general, the purpose of a research design is to aid us in
identifying lawful relationships between our variables. They are
only an aid however, and particularly in the field of applied research
the experimental results will tend to reflect various relationships,
since the obtained results may depend on one or more of the unique
features of that research setting and of the experimental manipulation.
Because such ambiguity can never be entirely eliminated, the primary
task of research design and the goal of an experiment is to 'minimise
ambiguity' (Kazdin, 1980) or to 'strengthen hypotheses' (Paul, 1969).
In fact, the term 'experiment' itself implies a greater degree of
rigour than is actually attainable. Bearing this in mind, 'experiment'
and 'evaluation' are used synonymously in this thesis.
The term 'internal validity' has been coined to refer to the relationship between independent and dependent variables (Campbell and Stanley, 1963), that is, the extent to which an experiment rules out alternative explanations of the results. These alternatives include the passage of time (history and maturation), repeated testing and selection biases. In contrast, 'external validity' refers to the extent to which the obtained results can be generalised to other populations, settings, researchers and so on.

The experimental design is an attempt to minimise 'threats' to internal and external validity, by making use of such devices as control groups and standardised procedures and materials.

In applied research in institutions, such as understaffed hospitals, close approximations to true experimental designs are inherently problematic. For example, it is unlikely that randomisation of subjects can be arranged. These limits result in our having to adopt 'quasi-experimental designs' (Campbell and Stanley, 1963), which, because of their weaknesses, mean that results have to be interpreted with extra caution. However, such designs still allow inferences to be made about the effects of experimental manipulations, and the use of additional control groups can serve to considerably strengthen the design.

One of the most popular versions is the pre-test - post-test control group design. In this, subjects are tested before and after the training intervention and the effects of the intervention are reflected in the amount of change between assessments. The addition of the control group minimises threats to internal validity. The only essential difference between this and the 'true' experimental design is the non-random allocation of subjects to groups. The design is labelled the 'non-equivalent control group design' (Campbell and Stanley, 1963, p.40) and in principal has good internal validity and unknown external validity. With matching of subjects in each group, and 'multiple measures' of outcome this design is a relatively strong one for applied research.

The use of multiple measures is 'received wisdom' in clinical research, and few have detailed its advantages. The major one would seem to be the improved validity of any conclusions drawn from the
research, since the concurrence of several dependent variables is more probably a function of some real effect of the independent variable. Additionally, multiple measures allow for the evaluation of diverse aspects of an investigation, or for diverse aspects of responding. That is, multiple measures may help to demonstrate a 'desynchronous' effect of the independent variable, and illustrate the range of effects following an intervention. So, for example, Rachman and Hodgson (1980) report that different therapies for obsessional-compulsive disorders result in different impacts on measures of behaviour, thought and feeling. A corollary that is explored in this research is to examine for unanticipated, 'ecological' effects by utilizing multiple measures, assessors and subjects. This is detailed in Chapter 8. In sum, such an analysis, using divergent measures, is valuable in depicting intervention effects in a broad and coherent manner (Nelson, 1981).

Statistical inference is integrally related to these considerations of experimental design and for this reason the relevant statistics are reviewed below. Using group designs it became particularly important to determine whether the obtained results could have been the result of chance alone. In order to estimate the probability that this was the case, statistical tests were used. The general class of tests that were appropriate for the current research were 'non-parametric'.

These statistics were appropriate since they did not require assumptions to be made about the population distribution and parameters, and could be used when the data were less than of the interval kind. For example, we could not assume that the nurse subjects were normally distributed with respect to test scores, since some would have had greater prior exposure to behaviour therapy than others. The disadvantage of non-parametric statistics is that they have less power-efficiency than parametric tests, i.e. they extract less information from the data. However, the most frequently used tests in this research, the Wilcoxon Matched-Pairs, Signed-Ranks and the Mann-Whitney 'U' Test, are almost as sensitive as their parametric equivalents (Siegel, 1956). In contrast to these however, the non-parametric tests assess whether or not two populations are identical, as opposed to determining whether or not there is a difference in the population means (Robson, 1973).
The Wilcoxon Test considers whether correlated samples, namely matched-subjects or repeated measures designs, are identical; and the Mann-Whitney assesses this with respect to independent subjects, for example a between-groups comparison. Both tests are similar in rationale and computation.

In addition to comparisons within and between groups, it was also useful to analyse tests, and the relation between tests and selected outcomes. For this reason discriminant analysis and multiple component analysis statistics were used.

Discriminant analysis involves selecting a collection of variables on which the samples are expected to differ. The mathematical objective is to weight and linearly combine the variables so that the samples are forced to be as statistically distinct as possible. This involves consideration of linear combinations of these variables so as to provide discriminant functions, which maximise the separation of the samples. Following the derivation of functions, statistical tests may be used to gauge the success with which the discriminating variables actually distinguish when combined into the discriminant functions.

In the present research, the large number of potential discriminators, i.e. tests, can be analysed to determine which ones are necessary for satisfactory levels of discrimination. A stepwise procedure can be used, where the successively best discriminators are selected and combined. In this way either all tests are selected or the remainder do not contribute to further discrimination. Typically, a reduced set are found which are as good as the full set of tests.

The importance of the functions are indicated by the relative percentage of the associated eigen value. This measures the proportion of the variance of the dependent variable 'explained' by the chosen set of independent variables (Klecka, W.R., 1975 in Nie et. al.). The analysis was used to assess the relative contribution that each of the administered tests was making, and to then allow a subset to be used.

Multiple components analysis is a method that enables us to see whether, for an array of correlation coefficients for a set of variables,
there exists some underlying pattern of relationships. This may allow
the data to be 'reduced' to a smaller set of factors or components.
These may be viewed as 'source variables' accounting for the observed
inter-relations in the data (Kim, 1975, in Nie et al.). A widely
used method of rotation, the varimax orthogonal rotation, was used to
consider an attitude measure used in this research.

In addition to the comparisons referred to above, comparisons
were also made between raters using the research measures. This was
particularly the case with the observational instruments, where it was
necessary to establish the degree of inter-rater reliability. The
traditional statistical approach to this is to provide a correlation
coefficient, a percent agreement figure, or some other indication of
association between the scores provided by the raters.

Hall (1974) has pointed out that these traditional procedures
make a number of assumptions. These are that the scores on the
rating instrument are normally distributed, that percent 'agreement'
is negligible, that total scores are meaningful, and that the mean
scores of both raters are similar. As Hall (1974) points out, these
assumptions may not be valid, and he recommends the use of weighted
kappa ($K_w$), as this statistic does not make the above assumptions.
Weighted kappa was particularly appropriate in the present research,
since some of these assumptions were particularly dubious. For example,
where short interval sampling was conducted for low frequency behaviours,
as with the Social Reinforcement Rating Scale (SRRS), then surprisingly
high levels of inter-rater agreement would be expected to occur by
chance alone.

A concluding comment in this section ought to be made on group
designs. Although group designs are not typical of behavioural research,
there are instances where the favoured $N=1$ design cannot answer questions
from applied research, or is at least inappropriate (Hersen and Barlow,
1976, p.63). The instances that applied here were the wish to evaluate
a training package made up of discrete elements, and thereafter to
compare it with a second complex package, differing on a number of
relevant factors. An additional consideration was the value of large
groups, as this maximised the probability of matching subjects on
demographic and baseline variables, so further strengthening the
experimental design and facilitating the comparison of the training packages.

4. SOME DEFINITIONS

Contemporary behaviour therapy cannot easily be defined, since there is a diversity of views, procedures, and debate about theoretical foundations. As a result, there is no commonly accepted definition of behaviour therapy (Wilson, 1982) and some clear trends to subsume thoughts under the rubric of behaviour (Mahoney, 1977, e.g.). Reflecting this diversity, the debates on the nature of the term 'behaviour therapy' have included proponents of abandoning the term (Bandura, 1969), pronouncing it dead (Krasner, 1976), dissecting it (Kanfer and Phillips, 1966) or resurrecting it (Wilson, 1978).

The synonymous use of the terms 'behaviour therapy' and 'behaviour modification' is widespread (e.g. Ullman and Krasner, 1965). However, some authors have tried to distinguish them, for example by attributing a more generic meaning to 'therapy' and a similarly restricted meaning to 'modification', e.g. in terms S-R and S-O-R paradigms (Evans and Wilson, 1968), and 'narrow' and 'broad-band' approaches (Lazarus, 1971).

Notwithstanding this 'terminological wilderness' (Franzini and Tilker, 1972) there remain some fundamental defining characteristics of what we shall refer to as behaviour therapy. These are a commitment to maintaining firm links to the principles, procedures, and findings of psychology as an experimental science. More specifically, following Wilson (1982, p.292), these are the use of:-

a) Explicit, testable concepts;
b) treatments derived from or consistent with experimental clinical psychology;
c) therapeutic techniques that can be precisely described and objectively measured;
d) experimentally evaluated treatments, and
e) emphasis on innovative research strategies that allow rigorous evaluation.
In turn, the term evaluation requires a definition, since it is prominent in this research. It is also poorly defined and often improperly used. As with behaviour therapy, interchangeable terms are readily employed, such as 'assessment', 'appraisal' and 'judgement'. Reviewing these, Suchman (1967, p.31) lists six steps that reflect the breadth of meaning conveyed by the term evaluation:

1. Identification of goals to be evaluated;
2. analysis of the problems with which the activity must cope;
3. description and standardisation of the activity;
4. measurement of the degree of change that takes place;
5. determination of whether the observed change is due to the activity or to some other cause; and
6. some indication of the durability of the effects.

As he points out, this clearly places evaluation in a scientific guise. However, there are several different categories of evaluation, including 'process', 'effort', 'performance' and 'efficiency'. These inter-related categories are all implied in a successful programme. Each category is usually subdivided. For example, Heinrich et al. (1981) discriminated between seven levels of performance evaluation in the continuing education of clinical psychologists. These were needs assessment, procedural descriptions of teaching modes, trainee satisfaction with teaching, knowledge acquisition, skills acquisition, utilisation of skills and knowledge and clinical outcomes with patients. They reported that evaluations of levels beyond knowledge acquisition are difficult to achieve and are generally not conducted. Nonetheless, these latter levels are essential to a systematic evaluation of training, since we have reason to believe that achievements at one level do not automatically transfer to another (e.g. Gardner, 1972).

5. RESEARCH AIMS

Within the range of considerations outlined above, the general aims of the nurse training endeavour were to methodically examine the efficacy of both the course as a learning devise for nurses, and of behaviour therapy as an approach to patient management, within the context of psychiatric rehabilitation. Implicated in this were a
number of related, empirical questions: was the 'triadic model' viable in this context?; would the overall scheme be effective as an innovation?; what obstacles would arise, and what solutions were available?; would nurses and patients benefit? To some extent all these issues were addressed in this research and the various outcomes are detailed as far as this was possible. However, there were numerous issues and consequences that were not detailed. The gesture to this has been to emphasise the nature of interventions such as major staff training schemes, and to pick out instances that illustrate the 'ecological' qualities of the institutional system.

In general, the perspective was one of viewing the programmes of staff training as hypotheses. They were therefore, tests of a number of assumptions concerning the effective training of staff and their interventions with patients (Backrach, 1980). A related aim was to formulate and test these hypotheses in the complexity of the institutional setting, so evolving a broader behavioural analysis (Hersen, 1981), one reflecting the 'reality' implicit in social innovation.
6. SUMMARY

It was acknowledged at the outset of this chapter that research in the hospital setting is beset by complexities: whereas 'simple' questions could be asked about staff training, the independent variable in this dissertation, it was argued that the setting afforded an opportunity to conduct a thorough evaluation that went beyond simple issues concerning staff training to questions of innovation and institutional change.

In keeping with this emphasis, the complexity of the research environment was elaborated in terms of a series of related factors. These included the relationship between research and institution, and focused on the value and appropriateness of an 'experimental social innovation' research model as a way of bridging the gap between 'laboratory' and 'field'. This model satisfied the growing insistence in the behavioural literature to conduct evaluations of technology in the 'natural environment'. It also provided a response to official reports, which have argued for the establishment of rehabilitation schemes based on staff training and behaviour therapy.

The methodological issues implicated in this 'real-world' evaluation of technology were discussed, particularly the advantages of group designs and conservative statistical analyses.

The research aims were broadly regarded as the thorough, 'ecological' evaluation of a nurse training scheme both as pedagogy and innovation, and the consequences of this intervention for staff and patients.
"It must be considered that there is nothing more difficult to carry out, nor more doubtful of success, nor more dangerous to handle, than to initiate a new order of things. For the reformer has enemies in all those who profit by the old order, and only lukewarm defenders in all those who would profit by the new order, this lukewarmness arising partly from fear of their adversaries who have the laws in their favour; and partly from the incredulity of mankind, who do not truly believe in anything new until they have had actual experience of it."

(Machiavelli, N., c.1513)
1. INTRODUCTION

The aim of this chapter is to describe a series of related contextual dimensions that amount to the 'setting conditions' for this research and elaborate some of those discussed in Chapter 1. These are historical, nursing role, organisational innovation, local hospital and scientific dimensions. Together they provide an outline of some of the more prominent considerations and constraints which impinged on and shaped the research. This was particularly so because of the innovatory nature of the whole rehabilitation scheme, incorporating the nurse training component. There is therefore considerable emphasis on aspects of innovation such as dissemination and constraints. In effect, we are attempting to flesh out the above quote from Machiavelli and provide it with the hospital body of Carlton Hayes, the site of the innovation.

The provision of a backdrop for this endeavour is contrasted latterly with the ideal of 'model programmes' of rehabilitation, so as to complete past, present and future perspectives. As a concluding note, some related mention will be made of the scientific context of the research that follows.

2. THE HISTORICAL CONTEXT

The creation of special hospitals for the 'mentally ill' is a relatively recent phenomenon. Britain's first 'Asylum' was opened in 1547. Prior to this century mental illness had been dealt with by such methods as beatings, straight-jackets, ostracism, dispossession and neglect. In more recent times we have vacillated between putting the mentally ill 'out of sight and out of mind' and yielding to humanistic attempts to cure the 'sick souls'. Today our hospitals represent a crude compromise between these conflicting trends of custodialism and humanism (Greenblatt, 1955).

The early Greeks viewed mental illness as a result of unusual social experience and therefore sought care through changes in the social environment (Stuart, 1969). Through the dark ages the 'demon theory' was at its peak and treatments consisted of cruel means of
exorcism in an attempt to purge the sufferer of this possessor. Physicians in the later middle ages emphasised that mental illness was caused by organic process in particular due to lesions of the brain (Deutsch, 1949). A parallel view was that mentally ill persons had succumbed to "animal instincts" (Bockoven, 1957). Both viewpoints regarded the mentally ill as being insensitive to pain, cold and discomfort. Hence, physical care was much neglected and cruel attempts were made to establish sensory contact or punish animal instincts to gain control of them.

In this tradition many horrendous 'therapies' were pursued. One Pennsylvania hospital adopted the following 'treatment': patients' scalps were shaved and blistered; they were bled to the point of syncope; purged until the alimentary canal failed to yield anything but mucus, and in the intervals they were chained by the waist or ankle to the cell wall (Deutsch, 1949, p.80).

Reviewing mental hospital care, Deutsch (1948) noted that many cruel practices persisted, although the theme of exorcism was diminished. Patients were still chained and water treatments were used in which patients were placed in tubs, narcosis was used, lobotomies represented a technical triumph and electro-convulsive treatment was regarded as therapeutically effective because of its resemblance to death agonies. However, a second more humanitarian trend was emerging, termed 'moral treatment'. This treated insane persons in accordance with their moral rights as individuals. Treatment was intended to reveal to the patient the moral of his life story in relation to other people (Bockoven, 1959, p.522). The moral treatment concept evolved into the contemporary notion of a 'therapeutic milieu'. This attempts to provide the patient with realistic and meaningful communications with others, facilitates participation, reduces anxiety and increases comfort and self-esteem, provides insight into the causes and manifestations of the illness and mobilises the patients' initiative and motivation to realise more fully his potentialities for creativity and productiveness (Schwartz, 1957, p.131). The major additional trends in dealing with mental health has been in the use of drugs and behaviour therapy. The first truly effective psychotropic drugs were introduced in 1952 and since then they
have led to dramatic improvements in the treatment of the mentally ill, especially in the acute stages. Many patients, previously doomed to remain in hospital, recovered sufficiently to return home (Brill and Patton, 1959). Behaviour therapy followed and had a key role to play in re-establishing skills and motivation devastated by institutional life (Butler and Rosenthal, 1978).

The emphasis given to the alternative courses of treatment available to the mentally ill is partly dependent upon treatment availability and partly upon the approach adopted within given hospitals. Thus, the early treatments necessitated a custodial model, whereas the use of psychotropic drugs has latterly made more varied and humanistic approaches possible.

The custodial model is founded on the prison (Powelson and Bendie, 1951) and in practice provides a highly controlled setting concerned with the detention and safe-keeping of 'in-mates'. Patients are conceived of in stereotyped terms that are categorically different from 'normal' people, and as totally irrational, insensitive, unpredictable and dangerous. Mental illness is attributed primarily to poor heredity, organic lesion and so on. In consequence, the staff cannot expect to understand the patients, to engage in meaningful relationships with them, nor in most cases do them any good. Custodialism is saturated with pessimism and autocracy (Gilbert and Levinson, 1956). Also, the organisation maintains a consistency of attitudes, values and behaviour whose purpose is to preserve the status quo (La Piere, 1965).

In contrast, humanistic orientations stress therapy evolving from intra-psychic and interpersonal conceptions of mental illness. The patient is viewed in psychological terms with hereditary and somatic factors minimised or ignored. The whole tenor is optimistic, often unrealistically so, and democracy and patient self-determination are encouraged (Gilbert and Levinson, 1956). Not least, the social structure is flexible and has latterly been referred to as a 'therapeutic milieu' (Schwartz, 1957).

Clearly, the described ideological positions are unlikely to arise in 'pure' forms and are most appropriately viewed as opposite
ends of a continuum. They may also be regarded as historical (custodial) and more recent (humanitarian) philosophies of dealing with the psychiatric patient.

3. ROLE CONTEXT

The elimination of punitive and restrictive measures and the reduction of disturbed behaviour that accompanied the advent of an effective chemotherapy slowly led to an evolution in the psychiatric nurses' role away from rigid routinised practices. The nurse was credited with doing much to "improve furnishings, organise painting crews or paint walls herself, clothe patients, obtain apparel and toilet articles from their relatives, prepare snacks during the day and at bed-time. Later, as she became an important influence in the developing of recreational and occupational programming she began to think of herself as responsible for patient interaction, group activities and ward morale" (Greenblatt et al., 1955, p.168).

Simultaneously the relationship between doctor and patient relaxed .... "and the practice of jumping to attention when they entered the room was abolished" (op cit, p.168). Prior to this period, "anything considered to require an I.Q. of over 80 had to be done by a doctor" (op cit, p.262).

The nurse was required to boss and threaten patients so as to keep the ward quiet and to make sure no patient disturbed another. In general, all personal contact with patients was avoided and all 'therapy' left to doctors. The individual problems of patients were insensitively dealt with and the patients viewed with distrust and as a source of trouble.

In contrast, the humanistic nurses' role emphasises a basis of friendship and trust with the patient. The functions of 'therapist' is accepted as part of a broad role that includes traditional caring duties such as the dressing and shaving of patients (Gilbert and Levinson, 1955).

Within a humanistic setting the nurses became free to assume responsibility as captain of the ward team, teacher of other nurses
and even of patients. Increasingly, the nurse became the group leader (Greenblatt et al., 1955, p.169).

Latterly the World Health Organisation (1956) had stressed ways in which the nurse could provide experience in living for patients. This would in turn enable the patient to establish relationships that are less anxiety provoking and more comfortable. Therapy was intended to make the prospect of further relationships less forbidding. This interpersonal dimension of the nurses' role was described as the essential art of their task. More recently, nurses have been encouraged to formalise their interpersonal contacts by becoming professionally autonomous therapists during post-qualification courses of training (Marks et al., 1977). This development leads to an almost intermediate profession of 'nurse therapists' specialising in behavioural therapy techniques (Hall, 1979). The research that follows describes a scaled-down instance of this role development into therapy.

4. INNOVATION: THE LITERATURE CONTEXT

Despite the obvious difficulties inherent in shifting towards a humanitarian approach, little thought has been given to how psychiatric institutions and their inhabitants can change. The typical response to crisis, in hospitals as elsewhere, is to postpone constructive innovation or to implement ad hoc solutions (Fairweather et al., 1974).

In reviewing almost 4,000 studies of the process of innovation Havelock (1969) discussed three models; research development and diffusion, social interaction and problem-solving. The first approach is most widely pursued and consists of research to establish relevant knowledge leading to a package that is communicated to possible users. Underlying this model is a belief in the efficacy of a rationalistic information/dissemination process of diffusion, that is that external innovators can merely present information to rational people who are expected to adopt it. The naivety of this approach is witnessed by an example from N.A.S.A.: they estimated that 21,000 companies could make use of inventions derived from space developments. However, only 30 companies adopted an invention (Wright, 1966).

The social-interactions model is concerned with the spread of innovation largely in an individual, organisational context. The form
of communication (formal/informal), the stages in the process (knowledge, persuasion, decision, confirmation) and characteristics of adopters are emphasised (Rogers and Shoemaker, 1971).

Lastly, the problem-solving approach encompasses a diversity of organisational survey techniques which have in common problem-solving by self-examination of personal styles and communication patterns. The process of organisational functioning rather than the context of organisational tasks and goals are emphasised. Therefore, hierarchical structure and particularly the functions of management level personnel become subject to modification. Inter- and intra-personal relations are 'targeted' with the goal of more positive and mature organisational relations (Argyris, 1970). As a consequence, the institution becomes more responsive to change, and to choices about change methods.

In conjunction these provide a model of what traditional practices may be beneficial to the organisation (research and development); how individuals may be influenced to adopt innovations (social interaction) and how styles of management within the organisation may be modified to create willingness to change (problem-solving). However, the effectiveness of these models for organisational innovation is not clear, partly due to a dearth of research and partly to their utilisation as a broad strategy, thus contaminating the significance of individual independent variables (Fairweather et al., 1974).

In an attempt to rectify this state of affairs, Fairweather (1967) has emphasised 'Experimental Social Innovation'. The fundamental feature of this approach is to operationally define each phase in the innovation and evaluate its impact. The results provide feedback on the social change variables and have led to the development of a fourth model of organisational change, or at least to a coherent way of combining the three models above. Its distinguishing features are:-

(a) Implementation of changes on a pilot basis as part of a longitudinal experiment;

(b) evaluation determines subsequent dissemination;

(c) alternative ways of activating adoption are compared experimentally.
As a result of extended use of Experimental Social Innovation, Fairweather et al., (1974) have concluded that there are a number of principles for creating change in mental hospitals. These include:-

i) **The Principle of Perseverance**
   The first principle is that of hard work and tolerance of confusion. Effecting institutional innovation is a highly complex, multivariate phenomenon. It takes a long time to achieve and the 'pay off' is often minimal when weighed against the effort expended.

ii) **The Principle of Discontinuity and Independence**
   Many variables traditionally considered to be change-related are unrelated to change. For example, evidence indicated that financial inputs to hospitals were not related to innovation, nor were indicators of the 'social climate' (e.g. 'conservatism').

iii) **The Principle of Outside Intervention**
   Outside intervention is essential for change to occur. It must be active, personal and frequent. However, outside intervention does not discretely result in change but rather activates a chain of processes that may result in change. In this catalytic role, the outsiders' role is paramountly that of leader.

iv) **The Principle of Action-Orientated Intervention**
   Cognitive awareness and attitudinal acceptance strategies are less effective than those oriented towards behavioural compliance and task accomplishment. For example, the demonstration ward commitment resulted in greater actual adoption and implementation.

v) **The Foot in the Door Principle**
   A reciprocal of action-orientated intervention is that action often produces resistance. This is manifested by a wish on the part of the institution to do nothing but talk about innovation. These institutions are not going to act.

vi) **The Limitations of Formal Power Principle**
   Very little evidence indicates that change could be procured by control and coercion via the formal power structure. High status advocates made no difference to adoption; rather it was high motivation in the individual concerned that was the most salient factor.
vii) The Principle of Participation

One of the clearest and most consistent findings indicated that involvement across disciplines, social status and groups led to greatest change. Unilateral decisions, whether from 'the top' or not, do not lead to change.

viii) The Principle of Group Action and Implementation

A small 'social change group' within the organisation is necessary to provide leadership in the change process. This group needs a leader who continuously advocates change and attempts to keep the group organised and its morale high. Usually such individuals do not emerge from the physician group. However, the group must be cohesive and committed.

ix) The Principle that Resistance to Change is Directly Proportional to the Social Status and Role Change Required by Innovation

Diffusion varies with the amount of change necessitated by the innovation. Role changes that require re-training are particularly prone to resistance.

x) The Principle of Continuous Experimental Input

There is considerable situational and personnel specificity related to innovation. Thus, higher status people played a relatively major part in decision-making regarding written approaches to change, but little part when these become action-orientated. Therefore, each new innovation requires a major research effort involving the staff who provide the action. Activating adoption is likely to be the most appropriate goal of research.

xi) The Principle of Activating Diffusion Centres

Full advantage should be taken of hospitals or individuals who advocate the new programme. They should be supported in their endeavours.

Other 'change agents' have also taken a keen interest in the principles of innovation. Georgiades and Phillimore (1975), for example, have warned against solo "hero-innovation", and have provided six guidelines that are remarkably similar to those presented above. Zaltman and Duncan (1977), in addition to supporting the principles, outline the personal qualifications required of innovators.
In this vein, Kirten (1976) has described a continuum and an inventory differentiating on the one extreme those who work within the existing system ('adaptors') from those who actively seek to change the system, the innovators. He provides some descriptions of these types, which are partly summarised in Table 2-1 below.

<table>
<thead>
<tr>
<th>Adaptor</th>
<th>Innovator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Precise, reliable, methodical conforming, disciplined.</td>
<td>Undisciplined, prone to tangential thinking.</td>
</tr>
<tr>
<td>Resolves problems in tried and understood ways.</td>
<td>Questions problems and resolutions, suggests alternative solutions.</td>
</tr>
<tr>
<td>Makes means into goals.</td>
<td>Disregards means in pursuit of goals.</td>
</tr>
<tr>
<td>Self-doubting, compliant, Vulnerable to social pressure.</td>
<td>High self-assurance and independence.</td>
</tr>
<tr>
<td>Is essential to the system at all times.</td>
<td>Useful for crises or avoiding them, if can be controlled.</td>
</tr>
<tr>
<td>Sensitive to others, maintains group cohesion and co-operation.</td>
<td>Insensitive, disruptive, abrasive.</td>
</tr>
</tbody>
</table>

Table 2-1: Some behavioural descriptions of 'adaptors' and 'innovators'

On the basis of his organisational research, Kirton (1976) goes on to suggest that notions of resistance to institutional change have been over simplified and require the addition of a personality dimension, as measured by his inventory, and attention to what he refers to as 'precipitating events'. These he classes as either innovative ideas that emanate from within or from outside the system. In keeping with Fairweather's (1967) experimental social innovation, these are variables that are in theory manipulable and hence available for evaluation. They are not manipulated in the present research, and are outlined here so as to demonstrate one instance of the complexity of attempting innovative work in a hospital context, and of conducting controlled experimental research.

In practice, the technologies which have resulted from such work have not been adopted, but rest unused in professional journals (Stolz, 1981). The initial demonstrations of their utility have not
led to their continuation or proliferation. Referring to the major work of Paul and Lentz (1977), Peterson (1981) despairingly noted that a change of administration led to the discontinuation of a very successful programme. Stolz (1981) cites other examples from the field of applied behaviour analyses, and juxtaposes the apparently inconsequential effect of data where major social problems are concerned with the high impact of research findings in the development of new weapons systems. For example, the boom in 'community mental health care' became law and was implemented before compelling data had accrued to empirically support the decision, whereas Fairweather et al's Lodge system of rehabilitation (1969) was not adopted, despite most impressive findings.

There therefore seems to exist little by way of a lawful relationship between successful innovations and their continuity or dissemination. The literature on innovation offers no general theory, only a host of variables, resulting in 'lists of lists' rather than empirical studies (Stolz, 1981). It has been suggested (Gregory, 1981) that 'catastrophe theory' (Zeeman, 1976) provides a useful theory to account for the way in which continuous forces create discontinuous effects. This remains an empirical question, and the generality of the theory provides little preliminary indication of its applicability, save perhaps in the perception of innovation in 'catastrophe' terms!

A consequence of this lack of theory and empirical examination has been that our means for disseminating worthwhile innovations are feeble, so increasing government discomfort with the huge sums spent on research and development for meagre returns (Glaser, 1973).

In the absence of a clear theory or data-base one is obliged to accept the available lists as guidance on what at least represents 'good practice'. There is also an obligation to evaluate thoroughly. The joint consideration of innovation and evaluation provides a feedback loop (Sutten, 1978) and avoids the 'waste' of unconsidered social research (Seebohm Report, 1968).
5. CONSTRAINTS ON INNOVATION

The principles of innovation imply certain constraints, and some authors have elaborated these. More typically, they are to be found buried in the reports of major innovative efforts (e.g. Paul and Lentz, 1977; Greenblatt et al., 1965; Towell and Harries, 1979).

Amongst those who have attempted to pinpoint institutional constraints upon innovation are Repucci and Saunders (1974). They address the 'social psychology' of innovation and highlight those features of naturalistic research that most distinguish it from laboratory work. Typically, they state, there is a failure to appreciate the magnitude or significance of these differences with a resultant failure of most attempted projects. Repucci and Saunders (1974) detail eight problems confronting the innovator in the natural setting. These problems are institutional constraints, external pressure, language, two populations, limited resources, labelling, perceived inflexibility and compromise.

They conclude that the precise behaviour changed techniques derived from behaviour therapy are often quite limited because even minimal conditions necessary for behaviour change are difficult to obtain. They deride the "utopian fantasy" (p. 659) of Walden Two (Skinner, 1948), and urge that psychologists attempt to understand the applied setting. This attempt is hampered by a pre-occupation with non-clinical populations and short-term research (Hersen, 1979).

Gripp and Magaro (1974) reviewed the factors influencing the effectiveness of token economy programmes and found limited reward resources, prohibitions on the 'selling' of activities and home visits amongst many factors militating against change. Liberman (1968) in a review of seven behaviour modification centres, described the 'operational difficulties' besetting the innovator. These included escape from contingencies and inadequate nursing staff motivation and training. Weiss and Rein (1970) provided a case study in innovation and a list of administrative difficulties.

It is apparent that significant and permanent behaviour change depends largely upon the innovator's capacity to alter the social
setting in which 'problems' arise (Holland, 1978; Fairweather, 1974; Woods and Cullen, 1983). This includes analyses of the institutional determinants of staff and patient behaviour. This analysis affords a possible route out of this complexity of constraints and may prove helpful in analysing the social setting and thereby shape research towards realistic questions related to their natural setting (Moos, 1976).

6. THE RESEARCH CONTEXT

Carlton Hayes Hospital is a typical large National Health Service psychiatric hospital dating from 1907. It provides care for approximately 700 patients within 'acute', 'rehabilitation' and 'psychogeriatric' units. There are also day hospital and out-patient provisions.

Staffing levels and traditions have largely dictated a limited and unsystematic commitment to therapy within the rehabilitation unit of the hospital. A random sample of fifteen dates drawn from the research period showed that the hospital as a whole had an average of 2.4 nurses per shift (excluding learners), representing a nurse:patient ratio of 1:12. On the rehabilitation wards the staffing was even less adequate, with a ratio of 1:16. Therefore the hospital has perforce both custodial and humanitarian functions. The former has been to the level necessary to maintain at least minimal rehabilitative activities, and the latter extending only to chemotherapy and the 'tender loving care' of nurses. Of course, with low staffing ratios it would not be surprising to find that 'basic pessimism' (Talbott, 1978) resulted in low TLC dosages.

In terms of innovation, Repucci and Sanders' (1974) first category 'institutional constraints' is especially relevant. Control over major potential rewards such as money or time-off is normally held by administrators and is inaccessible to the innovator. The project had to operate within the confines of existing rewards or those that were readily and inexpensively available. The two major nurse training experiments reported in Chapters 9 and 10 illustrate how these can be manipulated.

Other constraints include 'informal' (i.e. private) contingencies
which support staff and patients in opposing innovation. These may operate at a peer level, for example, as happened when nurses were mocked by their colleagues for attempting the behavioural project. Equally, patients may reinforce one another for 'institutional' behaviour (Buehler et al., 1966). These behaviours are unlikely to change in the absence of powerful contingencies.

7. OBJECTIVES

On the other hand, there exist socially important reasons for attempting innovatory programmes of care for the psychiatric rehabilitation patient. In the 1971 census of mental hospitals there were over 100,000 occupied beds in England, (representing 2.27 per 1,000 population). Of these 75,000 patients had been in hospital for more than one year, and of this group 57% had been in hospital more than ten years, (D.H.S.S., 1975). The 'Patients First' document (D.H.S.S., 1979) stated that changes were necessary so as to improve the efficiency of the N.H.S. Psychiatric Hospital. The document emphasised that services must be managed in a way that enables those with prime responsibility for providing services to get on with the job (p.5).

The 'Nodder Report' (D.H.S.S., 1980) on the organisation and management of hospitals stressed the derogatory term 'back wards' used to describe putatively 'rehabilitation' wards, and pointed to the "poor facilities, lower staff ratios, a dull and unvarying regime and a general atmosphere of lowered respect for patients in which carelessness, neglect and even ill treatment can flourish" (p.64). The report acknowledges the contributions made by behavioural approaches and recommends the setting up of systematic rehabilitation programmes.

The Royal College of Psychiatrists in the Reports of the Working Party on Rehabilitation (1980) also recognised the scale of the problem posed by the long-stay population. One of their major recommendations was that all staff concerned with rehabilitation should receive some training and that clinical psychologists have a central part to play in this training exercise. The Working Party also recognised the need for further research and for co-ordinated planning of services.

In a closely related way both recommendations have been adopted at Carlton Hayes Hospital. Since 1975 a clinical psychologist (Charles Burdett) has been leading a multi-disciplinary team towards
accepting and finally adopting a major innovation in the organisation of rehabilitation services. In contrast to the traditional allocation of new patients on this unit to any available bed, he has developed a problem oriented inventory on which all existing and new patients were assessed. On the basis of the results of this assessment, the patients were assigned to groups and were moved into the same wards as other patients with similar problems. By creating more homogeneous ward groups and developing a hierarchical ordering of these wards, it became feasible to tackle these problems. This was because the range was reduced and as the nurses were able to develop expertise in a finite problem area. For example, nurses working on wards at the 'top end' of the hierarchy could specialise in social skills and occupational problems. At the other end of the ward hierarchy patients were more dependent and so self-help skills were appropriate areas of nursing expertise.

This necessitated a second, related innovation, namely the training of nurses (and other staff) in methods of assessment and treatment that were relevant to their patients' problems. This is discussed further in the next chapter, and forms the basis of this research and the author's contribution to the overall scheme.

These developments and the contextual dimensions discussed above, can be highlighted against the conceptual framework of 'model' programmes (Bachrach, 1980). These are defined as "any planned demonstration effort that tests the application of distinctive, often innovative, programmatic strategies to the care of chronic mental patients" (p. 1023). Bachrach (1980) describes these programmes in terms of their contents and the manner and extent to which they are evaluated. Table 2-2 below provides a summary breakdown of her analysis.

8. THE SCIENTIFIC CONTEXT

Such model programmes clearly differ markedly and hence each provides answers to limited questions. Their use is not simply to be judged by their generalisability, but more realistically as hypotheses concerning hospital services. That is, it provides a test of some assumptions regarding the programme of care (Bachrach, 1980).

These tests cannot be carried out in the ideal scientific manner. The complexity of the setting, the numerous independent variables present in the setting and the staff training package, and the
impossibility of obtaining precise controls all erode this ideal (Weiss and Rein, 1970). Nonetheless, at root we can still attempt to obtain refutation of our assumptions. This represents a powerful kind of knowledge (Popper, 1963). In much the same way that the scientific credibility of psychoanalysis has been argued (Fielding and Llewelyn, 1982) we may not be able to exert tight control over variables, but we can still observe and quantify the effects of our intervention so as to permit unambiguous inferences to be made about causes and consequences. This is because our theories permit us to make predictions that can be falsified by the experimental data. As a result, we can evolve improved approximations to 'truth', rather than attempting to establish 'natural laws'. The pursuit of such laws has largely been abandoned, because "reality appears to be complex" (Fielding and Llewelyn, 1982, p.15).

In keeping with this more modest objective it is appropriate to regard the research to be reported in subsequent chapters as an attempt to improve our understanding of a staff training innovation within a complex of variables. These will be discussed in greater detail as each issue is elaborated. In sum, the 'research' to be reported is more keenly defined as 'evaluation' (Burck and Peterson, 1975), that is, "the process of delineating, obtaining and providing useful information for judging decision alternatives" (Stufflebaum, et al., 1971, p.40).
SUMMARY

A number of contextual dimensions were reviewed in this chapter, so as to provide a backdrop for the research that follows. The reviews indicated that psychiatric hospitals are traditional and conservative institutions where innovation and research are typically very difficult to introduce and maintain. Some of the reasons for this include historical models of organisation, particularly the 'custodial' version, with its 'straight-jacketing' effect on the nursing role. The more recent evolution of a 'humanitarian' philosophy if not service organisation has led to an extension of this role into therapy, but this has not led to systematic reorganisation or evaluation of patient care and most often merely to short-lived, piecemeal interventions. This contrasts starkly with the concepts of a 'model' programme.

In order to effect a major innovation some of the principles of innovation that are outlined in the literature were implemented. These fundamentally revolved around an 'experimental social innovation' model of organisation change (Fairweather et al., 1967) and some basic principles for maintaining change, such as action orientation and group action. The intervention was seen as meeting the recommendations of several organisations (D.H.S.S., 1980; Royal College of Psychiatrists, 1980), and was described as a means of addressing the major problem of services for the mentally ill (D.H.S.S., 1979) in a typical National Health Service setting in a modestly model fashion. The overall research was regarded as an attempt to test some hypotheses on staff training.
"But alas, we that wholly undergo the burden of school teaching can tell by our own experience how laborious it is both to mind and body to be continually intent upon the work and how irksome it is (especially to a man of quiet temper) to have so many unwilling provocations unto passion."

(Hoole, 1660, p.45)
1. INTRODUCTION

Parallels between form and content enjoy a privileged place in psychotherapy, based around the notion of a reflexive interplay between the 'topography' and the deeper meaning of behaviour. This correspondence is often smugly ignored or joyously ridiculed by latter day 'psychotherapists' such as the radical behaviourists. There exists, however, a marked paradox in this position, one that suggests either a lack of insight or resistance to the full import of their stance. This paradox is evident if one simultaneously considers theory and practice: behavioural theory emphasises general processes of behaviour change, but in practice these processes are only applied to a restricted range of agents and behaviours. Thus, behaviour therapy is at once applicable to therapist and patient (Bonchard et al., 1980) and can be expected to prove as useful a process for one as the other: it is 'content-free'. However, this reflexivity is not obvious from the behavioural literature, with, for example, clinicians expected to learn by osmosis or magic (Buttrum, 1976) since supervisors neglect basic procedures such as observation and enactive learning (Milne, 1983). As another example, Skinner's Walden Two utopia (1948) was not presented as a self-help package for social revolutionaries, but as a novel.

In this chapter the paradox will be examined in terms of the range of teaching methods used to promote learning, and by reviewing formats that overcome the discrepancy between behavioural theory and practice.

To facilitate this process a problem-solving framework (Stones, 1979) will be adopted. This seems congruent, since it represents the use of a general process to deal with its subject matter: problems.

A. Identify the Problem

In the present research the fundamental problem was one of how best to assist nurses in dealing with their patients. Relevant considerations were:-

What are the patients' problems?
Do effective techniques exist for dealing with these problems?
Can these techniques be utilised by nurses?
Related considerations that follow are how can these techniques be most efficiently transmitted to nurses? Once transmitted, how can they be monitored and evaluated? This phase is concerned with the 'what' of training.

B. **Utilise Relevant Concepts**

Within most areas of knowledge or practice there exist a large number of possibly useful concepts or techniques. From the point of view of the educator-cum-social innovator it is efficient to invoke and teach only those that are relevant to the alleviation of problems. This is particularly so when nursing and teaching time is scarce and expensive.

Also, one needs to consider which educational concepts or methods of instruction are most appropriate, given the problem and the students. This stage is concerned with the 'how' of teaching.

C. **Analyse the Task**

Task analysis in the case of staff training relates to a procedural description of the relationship between training in certain techniques according to certain teaching methods and the goal of the process, namely the alleviation of patients' problems. Each step in this process has to be detailed, and the steps are designed to provide a steady progression to the goal. In this sense the task analysis is concerned with the two preceding steps, i.e. with the syllabus and the method used to teach it.

D. **Give Prompted Practice and Feedback**

Once these problems of 'what and how' have been addressed there remain issues regarding the increasing autonomy of the student. It is to be hoped, and planned, that in practising new techniques the student requires gradually less and less assistance from the trainer. In behavioural terms, this progression involves the concepts of fading, maintenance and the generalisation of stimulus and response. In general, they also concern the issue of 'who' is to be trained.

In summary, therefore, the sub-headings for this chapter are:

(i) Is there a patient problem?
(ii) Is there a staff problem?
(iii) Do relevant approaches exist?
(iv) Can these techniques be taught to nurses?
(v) What are the best teaching methods related to these techniques?
(vi) How do we progress from staff training to patient training and maintain and monitor the system?

Each of these issues is discussed in general rather than detailed terms, since the aim of the chapter is to outline the major broad considerations in staff training. The following chapter considers nurse training in much greater detail.
(i) Is There a Patient Problem?

Although there are some commentators who would consider the psychiatric patient as problem free, at least in the sense of not requiring traditional forms of therapy (e.g. Laing, 1960; Braginsky et al., 1966) most professionals involved with this group are only too profoundly aware of the scale of the problem. In addition to the general and pervasive effect of living for extended periods of time in 'total' institutions (Goffman, 1961; Wing and Brown, 1970) there are the closely related and more specific difficulties arising from the lack of a routine requirement upon long-stay patients to exercise basic self-help skills. For example, it is customary in most institutions to find the nurses shaving, toileting and washing patients who, as would be widely recognised by the nurses themselves, are quite able to carry out these activities for themselves. This arrangement is convenient and on balance apparently agreeable to both parties, and extends to more group related activities such as table-setting and other domestic chores.

At Carlton Hayes Hospital an extensive survey of the patients' problems has been conducted. An inventory comprising 246 items was completed on all patients within the eight long-stay wards (Burdett, 1981). The inventory utilised fourteen problem categories and these are listed below in Table 3-1 together with an example of each category.

The inventory was used in a manner designed to provide a conservative estimate of the number and kind of problems per patient. A summary of problems is presented in Table 3-2 below. These data were then used in a cluster analysis that allowed for the systematic and rational re-allocation of patients to more problem-homogeneous groups of patients per ward. Also, the wards themselves were assigned distinctive functions within the long-stay sector of the hospital. These functions ranged from basic self-help skill training through intermediate skills such as domestic and mobility activities to social skills at the least dependent end of the range of patient problems.
<table>
<thead>
<tr>
<th>PROBLEM CATEGORY</th>
<th>EXAMPLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Eating</td>
<td>Can use a knife for spreading</td>
</tr>
<tr>
<td>2. Mobility</td>
<td>Can use public transport for short journeys, unaided</td>
</tr>
<tr>
<td>3. Personal cleanliness</td>
<td>Bathes self adequately</td>
</tr>
<tr>
<td>4. Health and hygiene</td>
<td>Eats scraps from the dustbin</td>
</tr>
<tr>
<td>5. Dressing</td>
<td>Can use a self-service launderette</td>
</tr>
<tr>
<td>6. Domestic</td>
<td>Can make tea or coffee</td>
</tr>
<tr>
<td>7. Finance</td>
<td>Adds simple sums (e.g. bus fares)</td>
</tr>
<tr>
<td>8. Shopping</td>
<td>Will obtain food in supermarket</td>
</tr>
<tr>
<td>9. Time and measurement</td>
<td>Can count to 30 or more</td>
</tr>
<tr>
<td>10. Expressive language</td>
<td>Patient tends to repeat what is said to him</td>
</tr>
<tr>
<td>11. Receptive language</td>
<td>Patient recognises own name</td>
</tr>
<tr>
<td>12. Writing</td>
<td>Patient can write own name</td>
</tr>
<tr>
<td>13. Symptomatic behaviour</td>
<td>Patient adopts odd or bizarre postures</td>
</tr>
<tr>
<td>14. Occupational skills</td>
<td>Manual dexterity good</td>
</tr>
</tbody>
</table>

Table 3-1: A Summary of the Psychiatric Patient Behaviour Inventory (PPBI) used to survey Long-Stay Patients' Problems.
<table>
<thead>
<tr>
<th>P.P.B.I. CATEGORY</th>
<th>MEAN RELATIVE FREQUENCY (%) OF PATIENTS HAVING PROBLEM</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Eating</td>
<td>15</td>
</tr>
<tr>
<td>2. Mobility</td>
<td>48</td>
</tr>
<tr>
<td>3. Personal Cleanliness</td>
<td>38</td>
</tr>
<tr>
<td>4. Health and Hygiene</td>
<td>46</td>
</tr>
<tr>
<td>5. Dressing</td>
<td>37</td>
</tr>
<tr>
<td>6. Domestic Work</td>
<td>59</td>
</tr>
<tr>
<td>7. Financial</td>
<td>67</td>
</tr>
<tr>
<td>8. Shopping</td>
<td>66</td>
</tr>
<tr>
<td>9. Time and Measurement</td>
<td>30</td>
</tr>
<tr>
<td>10. Expressive Language</td>
<td>39</td>
</tr>
<tr>
<td>11. Receptive Language</td>
<td>51</td>
</tr>
<tr>
<td>12. Writing</td>
<td>32</td>
</tr>
<tr>
<td>13. Symptomatic Behaviour</td>
<td>17</td>
</tr>
<tr>
<td>14. Occupational Skills</td>
<td>73</td>
</tr>
</tbody>
</table>

**TABLE 3-2:** Mean number of problems as enumerated by the Inventory (P.P.B.I.) for a random sample of long-stay patients \(N = 35\).
(ii) **Is There a Staff Problem?**

From the nurses' perspective, the patients' problems that were enumerated by the Inventory represent their problems as therapeutically orientated nurses. The range and frequency of these problems would not have come as a surprise to the nurses, who informally tend to exaggerate the extent of a patient's problem by opining that they cannot be rehabilitated and that such efforts are therefore futile. Nonetheless, nurses do believe that they already possess, as a result of experience and of observing senior nurses, an extensive battery of techniques for overcoming problems, albeit only in the case of 'good' patients. As with many innovations, the first reaction is to exclaim that the techniques are not new and have 'always' been utilised. To some extent this is bound to be true of behaviour therapy, since it largely formalises 'common-sense' practices for modifying behaviour. There are a number of indications that this reaction is unfounded. One of them revolves around the inconsistency in the views expressed by the nurses: on the one hand the techniques are not new, and furthermore they have always been utilised by staff; on the other hand the patients are unalterable, even though the techniques are recognised as being largely effective in modifying problematic behaviours. A logical corollary is that the techniques are effective, but that they are either not utilised or are inexpertly utilised. There is evidence for all points. The effectiveness of behaviourial techniques has been extensively validated, not least with long-stay patients (e.g. Paul and Lentz, 1977). However, there is also evidence that nurses do not understand or utilise these techniques. In later stages of this thesis it will be shown that experienced nurses' baseline scores on knowledge and skill measures are not significantly different from those obtained by untrained occupational therapy helpers. Also, it will be shown that once the nurses are trained to use behaviourial techniques they are able to rapidly and profoundly alter their patients' behaviour in the desired direction. The frank amazement of the nurses themselves with these changes is a further indication of the discrepancy between commonly claimed practices and reality.

Findings reported by other researchers support these views. Foreyt (1975) for example, in reviewing the use of behaviour modification
in institutions, noted that many patient-related problems are the
direct result of inadequately trained direct-care personnel. Gelfand
et al. (1967) provided evidence on the poor contingency management of
nurses as a major contributor to these problems. On the positive
side there is ample evidence that nurses can be trained as effective
behaviour modifiers, as will be shown in the literature review in
the next chapter.

Having established from baseline data that nurses do not
understand nor routinely utilise behavioural techniques, but that
such techniques can be effective means of overcoming patients'
difficulties, 'the problem' for nurses can be broadly construed as one
of developing behavioural knowledge and skills. The problem can also
be conceived of as the lack of a problem: the arguments above are
promised on the assumption of a therapeutic core to the nurses' role
and to an awareness of and interest in change. However, these are
assumptions, and regardless of nursing literature elaborating these
and other role aspects the cynic can readily point to contrary
indications. For example, we have noted in the preceding chapters
how resistance is provoked by attempting to institute change.
Unfortunately and inevitably this resistance develops into 'institutional-
ised' staff and patient roles, where the fundamental problem is the lack
of a problem: there is simply no need to do anything, only to seem to
be doing something. This has been referred to as the 'Beau Geste
syndrome' (Rosenthal, 1983), where 'dead' bodies are used in an effort
to man the fort, and where they can remain dead yet effective because
no one challenges them to behave as if they were 'alive'.

In a sense, then, this intervention is about a challenge, from
which there follows a further problem for nurse managers, in that once
such 'living' behaviours as skills and knowledge are developed they need
to be maintained. Evidence suggests that this maintenance must be
programmed and not left to chance (Katz et al., 1972; Panyan et al.,
1970).
(iii) Do Relevant Approaches Exist?

Behaviour therapy has a number of advantages as an in-service training topic, aside from the fact that it is an effective method. These include its relative simplicity, both theoretically and practically, that it can be taught to groups in small periods of time, that it has a wide range of applications (i.e. it is largely 'content-free'). These applications can also focus on groups of patients, and that it is entirely consistent with the theory to involve nurses in the approach. Most, if not all of these advantages do not extend to other forms of therapy, such as psychoanalysis.

The latter point on nurse involvement bears elaboration. Behavioural theories of patient behaviour stress the role of 'contingencies' between nurse and patient. For example, the 'Law of Effect' (Thorndike, 1921), states that behaviour is controlled by its consequences. In the ward environment it is nurses who control the consequences for patients' behaviour. Implicit in this control is a greater amount of contact with patients than any other hospital discipline. Also, this control is exerted in the 'natural' setting, the ward. This can be contrasted with 'special' wards or rooms, which remove patients for treatment and then return them to their usual environment, expecting treatment affects to persist in a different setting. To the extent that behaviour is environmentally determined this expectation is mistaken and naive. The evidence reported by behaviour therapists indicates a powerful effect of environmental manipulations, principally of modifying the relationship between a person (nurse, parent, teacher, etc.) operating in the natural environment and the patient (child, pupil, etc.), (Guerney, 1969).

Taken together, these points argue for a psychotherapy service delivery system that is mediated by nurses through training them in behavioural techniques. This is in stark contrast to traditional approaches that emphasise consulting room interactions involving a doctor-patient dyad. The label for the alternative is the 'triadic' model, since it involves a third agent, mediating therapy.

Tharp and Wetzel (1969) outlined the logic of this model by stating that in behaviour therapy those individuals who possess effective contingencies such as reinforcers, should occupy a position intermediate
to the consultant and the patient. As they add, this 'consultative triad' can therefore be viewed as the organisational convergence of behaviourism, of deprofessionalisation and the utilisation of natural relationships.

![Consultative Triad Diagram](image)

**Figure 3-1: The Consultative Triad**

Each agent makes a contribution to this triad: the 'consultant' is expected to provide expert advice and support, the mediator to control contingencies, and the patient to provide the problem. These positions describe functional relationships rather than the individuals occupying these positions, and there is an extensive literature describing the effective work of nurses, parents, teachers and others as mediators (Guerney, 1969).

More complex and sophisticated applications of behavioural procedures have necessitated a development of this model. Fundamentally the updated model acknowledges the reciprocal, interactive relationships between each agent, and views the service model as 'ecological' since it recognises that each agent affects and is affected by the system in which they behave (Bernstein, 1982).

![Ecological Model of Service Delivery](image)

**Figure 3-2: An Ecological Model of Service Delivery.**

In summary, the training of nurses in behavioural techniques affords several advantages. From the perspective of the trainer (or 'consultant') the techniques are readily taught. From the nurses
(or 'mediators') viewpoint they are readily understood and implemented, and with good results. Not least, from the service angle the system promises an efficient way of delivering therapy to large numbers of patients. It therefore becomes feasible for psychologists, the likely 'consultants' in this model, to spend more of their time training nurses to train patients as a way of providing a psychology service to both potential client groups, rather than working directly with individual patients or nurses.
(iv) Can these Techniques be Taught to Nurses?

To a large extent the arguments for the triadic model make it imperative to train nurses: how else can the huge demands for therapy be met, and how better? There are, though, some issues involved in "giving psychology away" (Burkhart et al., 1976). These include levels of nurse training and the issue of non-professionals, which encompasses ethical concerns largely relating to the possible misapplication of newly acquired techniques (Stein, 1975).

Historically, nurse training began with the elementary 'applicator' level of sophistication. Nurses were simply requested to pay no attention to undesirable behaviour and to reinforce desirable behaviour (Ayllon and Michael, 1959). Instruction took the form of written statements such as "reinforce the patient's approaches to you every time they occur. Check the patient every 15 minutes and tally, but do not reinforce the behaviour of being on the floor". At the other extreme, nurses have been trained as autonomous therapists dealing with a wide range of adult 'neurotic' and 'psychotic' problems (Marks et al., 1977). In summary form, the levels of training for non-psychologists are listed in Table 3-3 below.

<table>
<thead>
<tr>
<th>LEVEL OF SOPHISTICATION</th>
<th>FUNCTION</th>
<th>AUTHOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. 'Applicator'</td>
<td>Utilises simple, specific contingencies in highly structured supervision</td>
<td>Patterson and Reid (1970)</td>
</tr>
<tr>
<td>2. 'Technician'</td>
<td>Applies small number of techniques under moderate structure, without supervision</td>
<td>Salzinger et al. (1970)</td>
</tr>
<tr>
<td>3. 'Specialist'</td>
<td>Few but well developed techniques with structure, little supervision</td>
<td>Horner (1973)</td>
</tr>
<tr>
<td>4. 'Generalist'</td>
<td>Wide variety of techniques with more than one problem category, little supervision</td>
<td>Horner (1973)</td>
</tr>
<tr>
<td>5. 'Nurse Therapist'</td>
<td>Uses a wide range of procedures with in or outpatient groups. Autonomous. Potentially consultant</td>
<td>Hall (1979) Marks et al., (1979)</td>
</tr>
</tbody>
</table>

Table 3-3: A breakdown of the levels of non-psychologists' sophistication with behavioural procedures.
Implicated in the nurse training endeavour are issues of the para-professionals' use of psychotherapeutic techniques that were previously restricted to professional groups in general, and originally to doctors alone. One issue concerns the yielding up of techniques considered by some to be their particular prerogative. The triadic model appears to both rationalise the basis for para-professional involvement (not that these objections are especially rational at base) and still retain a privileged place for the professional as the 'consultant'. A second issue concerns the relative effectiveness of the two groups. Evaluations of behavioural techniques applied by para-professionals have been very positive (e.g., Guerney, 1969; O'Dell, 1974, Johnson and Katz, 1973). In summarising and reviewing forty-two studies that compare professionals (defined as those having received a formal, post-graduate training in a given therapy) with para-professionals, Durlak (1979) concluded that the latter group achieved clinical outcomes equal to or significantly better than those obtained by professionals. Durlak's conclusion requires the assumption that the forty-two studies actually address the question of comparative effectiveness in a meaningful fashion. For the majority of studies it has been argued that this is not the case (Nietzel and Fisher, 1981). Problems relating to inadequate research designs, unsatisfactory designation of professional/para-professional status and inadequately evaluated or reported outcomes led Nietzel and Fisher (1981) to conclude that only five of the original forty-two studies provide evidence on comparative effectiveness. These five they see as providing some tentative evidence that para-professionals working with psychiatric in-patients under close professional supervision achieve outcomes equal to or greater than therapists with Masters' degrees. In support of this conclusion, Ginsberg and Marks (1977) have provided evidence on the comparative effectiveness and efficiency of nurse therapists working with neurotic out-patient groups.

These data on comparative effectiveness go a considerable way to allaying ethical concerns about the possible misapplication of techniques (Berger, 1979; Stein, 1975). However, the relative skill with which different groups utilise techniques under structured, evaluative conditions may significantly differ from the use of the same skills under different conditions, namely the routine ward setting. It
therefore becomes important to evaluate the nurses use of their newly acquired skills and knowledge on the ward, in both structured and unstructured conditions. As this kind of evaluation involves a complex conception of the relationship between nurses and patients in their natural environment and also involves the use of different 'levels' of evaluation, it can be viewed as an 'ecological' perspective, complementing that used by Bernstein (1982) in describing the revised triadic model. This perspective is elaborated in Chapter 8.

So far, we have discussed the issues surrounding the question 'what' raised at the outset, and we have argued that behavioural techniques mediated by nurses within the triadic model supply a viable answer to the problems presented by long-stay psychiatric patients. Next we turn to the question of 'how' best to train nurses in these techniques.
What Are the Best Teaching Methods?

The major alternatives available to the staff trainer are traditional 'chalk and talk' methods, verbal and written instructions, assignments, various forms of prompting and 'discovery learning'.

Chalk and talk approaches are familiar to one and all, being the preferred and most common method used in school and university. It has been suggested that lectures were invented before the printing press when appropriate reading materials were not widely available and many students could not read (Bligh et al., 1975). Lectures continue to be one of the most economic methods of teaching information when the presentations need to be adapted to the requirements of large and specific audiences. They can be cheap, adaptable and relevant. The difficulties with lecturing include students' misperceptions (judged by inaccurate notes), memory limitations, declining attention and poor feedback (Bligh et al., 1975). However, it is evident that lectures can be useful as a teaching method if carefully prepared and intended to achieve specific goals. For example, one useful goal is to provide an introductory framework for a subject (Hale Report, 1964).

The relationship between talk (the lecture) and chalk (the blackboard) is not clear-cut. Visual, sometimes non-linear presentations of information seem likely to complement the lecture format by simplifying and reducing the reliance on verbal fluency and comprehension. However, those assumptions are not borne out by research. Vernon (1946) showed that the ability of adults to understand and remember data depends upon their ability to interpret graphic material, to understand and use language, to generalise from particular instances, and to think relevantly without being swayed by preconceived ideas. A similar experiment conducted with secondary school pupils came to the same conclusion and emphasised the importance of a coherent argument connecting isolated data. Thus a verbal accompaniment to visual presentation appears to be more important than a visual accompaniment to verbal presentations (Vernon, 1951).

Of course, chalk is not the only form of visual presentation and in latter years blackboards have been supplemented or replaced by
overhead projectors, film strips and slides. It appears that little systematic comparisons have been made of these alternatives, and the major consideration remains one of practicality. The simplicity and flexibility of the blackboard, paralleling the qualities of the lecture, makes it an abiding favourite. Its relative utility as a teaching method may well owe more to user styles and objectives than to inherent qualities such as visual contrast and colour range.

From a behavioural standpoint, changes in knowledge or understanding cannot be expected to result in behaviour change, particularly when the change is required in another setting. The few studies that have provided an analysis of ward performance following traditional chalk and talk teaching generally fail to support assumptions made about their effectiveness. Montegar et al., (1977) found that the effects of an in-service training programme were not maintained in the absence of social consequences provided by supervisors and Quilitch (1975) found no significant increase in targeted recreational activities with patients following traditional instruction. Klaber (1969) compared six residential facilities and found no relationship between institutional effectiveness and in-service training utilising chalk and talk methods. Milne (1982) compared chalk and talk with role-play and found that the only changes in nurses' ward behaviour occurred in the 'active' role-play group, who carried out more behavioural programmes with their mentally handicapped patients. In an early study Gardner (1972) also showed the relative ineffectiveness of the lecture format for teaching skills, and this has been replicated subsequently (Watson and Uzzoll, 1980).

Alternatives that have enjoyed increasing popularity with both trainer and trainee are task-related activity. Verbal and written instructions, educational role-play, modelling, and projects ('learning by discovery') are examples.

"People seek teachers and teaching in order to find something that they do not know already. In reality, however, teachers and teachings exist to help people to apply and practise, not to amuse or give experience that must be new." (Shah, 1971)
The early attempts to train staff involved written or verbal instructions (Ayllon and Michael, 1959). As was described above, nurses were simply told how to respond to given situations. Katz et al. (1972) used instructions for prompting staff to reinforce psychiatric patients within a token economy programme. Baseline measures suggested that the staff rarely reinforced appropriate patient behaviour. Instructions included a brief explanation that appropriate behaviour could be increased if it produced frequent reinforcing consequences and that undesirable behaviour could be decreased by reinforcing incompatible behaviour. These instructions were also posted conspicuously. Instructions had little effect on the rate of staff reinforcement. Positive contacts between staff and patients decreased slightly from 5% to less than 4% of the intervals observed. Such findings are contaminated by ward contingencies that militate against the demonstration of learning, e.g. peer pressure to conform to traditional practices. To clarify this it is useful to establish the amount of learning that has occurred in a more 'neutral' setting such as the classroom. However, even when instructions are used to maintain effective learning that has been demonstrated off the ward, they are found to be insufficient (Panyan et al., 1970). Similar results have been reported by Wallace et al. (1973) and Patterson et al. (1976). The maintenance issue will be considered below.

A form of written instruction that is derived from Learning Theory is the programmed learning script (Holland and Skinner, 1961). The format has advantages over standard texts by requiring the reader to make responses to complete sentences and then arranging for immediate feedback on the correctness of these responses. Not least, it encourages the reader to attend through the text and provides 'rewards' in the form of the positive feedback for correct responses. Also, it allows each reader to proceed at their own speed. So optimistic were the early advocates of programmed learning that a revolution in education was predicted. While there was widespread interest, the revolution did not materialise (Bligh et al., 1975). The format has retained its uses, though, not least because it has motivational properties deriving from the programmed high success rate and the
small learning steps involved. As a result, it can be effective in bringing groups of people with varying academic backgrounds to a similar level of attainment, that is, it is a successful 'leveller' (Castle and Davidson, 1969). Courses based exclusively on programmed learning, though, are not popular (Stavert, 1969), and it would appear that the major advantage afforded is in 'levelling' mixed groups and to some extent in making complex subject matter more readily understood (Croxton and Martin, 1968).

Educational role-playing is a training approach that can effectively bridge the classroom/ward gap, and so it has an obvious advantage over methods with doubtful relevance to 'real' settings. Research on its relative value is even less common than in the case of lectures. Gardner's (1972) and Watson and Uzzell's (1980) comparison of role-play and lectures has already been referred to. They found role-play to be more effective in teaching performance skills and lectures to be superior in teaching behaviour modification knowledge. Jones and Eimers (1975) have provided supportive evidence from a course training elementary school teachers behavioural techniques such as 'time-out'. Milne (1982) showed that role-play resulted in superior skill utilisation as compared with chalk and talk instruction given to mental handicap nurses.

A progression from role-play towards the ward setting can be programmed by setting assignments or 'projects' for staff. Typically these projects are preceded by some other form of instruction, one example being 'modelling'. This involves the trainer serving as a 'model' by demonstrating a technique prior to the trainee's attempt to imitate. (As Aesop's Fables have moralised, example is the best precept.) For example, Wallace et al. (1973) investigated the effects of modelling on the frequency of staff participation in a social-interaction hour conducted with patients in a neuro-psychiatric unit. In a reversal design they compared several experimental variables including the effects of modelling by a professional consultant versus modelling by the supervising nurse on the ward. They found the greatest modelling effect to derive from the consultant.
Projects represent the most 'behavioural' instance of a teaching method in the sense that they require the overt expression of a topic in the natural environment. As such, they parallel the role of in vivo procedures in behavioural psychotherapy. As with the in vivo component of desensitisation the project component of a training programme seems to be necessary for a successful outcome (McInnes, 1978). The project, McInnes (1978) suggests, has this effect because it provides a cue to staff to perform tasks while also giving clear guidance on exactly what is expected of them. Not least, the overt nature of the task allows trainers to observe and provide feedback that is readily tied to the nurses' actual behaviour. Therefore the learning of both parties is enhanced, for example allowing trainers to modify aspects of the project or preliminary instruction. Finally, the projects build in a direct link between staff training and the patients whom it is eventually intended to benefit. This factor tends to have a motivating effect (Bender, 1976).

This form of instruction is most readily identified with 'discovery learning', a process essentially involving inductive reasoning. In this process the learner discovers for himself the generalisations as well as the instances to which the rule applies (de Tornyay, 1971). The trainer's role is to set the occasion for learning, optimising by prompts and careful preparation the likelihood of learning. In this sense the teacher cannot teach; it is the pupil who learns (Skinner, 1968). The wise teacher:

"does not bid you enter the house of his wisdom, but rather leads you to the threshold of your own mind"
(Kibran, 1926)

Bruner (1961) listed four advantages of discovery learning: increases in intellectual potency, increased motivation, and the development of a method of enquiry and of a problem-solving style. However, as with all aforementioned teaching methods there is a paucity of research on the relative effects of discovery learning and it is therefore premature to abandon traditional, expository methods of instruction. The position seems to have changed little since Rogers
"Considering the fact that one-third of present-day psychologists have a special interest in the field of psychotherapy, we would expect that a great deal of attention might be given to the problem of training individuals to engage in the therapeutic process..... for the most part this field is characterised by a rarity of research and a plenitude of platitudes."

Nonetheless, there do appear to have been some research developments based on teaching packages. These are typically related to distinctive models of psychotherapy. For example, the client-centred model has evolved a comprehensive training programme in which individual instructional components have been evaluated (Truax and Corkhuff, 1967). The micro-counselling package has evolved to provide an initial grounding in specific counselling skills, such as attentiveness (Ivey et al., 1968). The behavioural model has evolved the structured learning format (Bouchard et al., 1980). There is considerable similarity of teaching method between these three approaches: initial didactic teaching followed by modelling, role-playing and observed practice with immediate feedback (Matarazzo, 1978). Their differences reflect largely alternative goals and teaching priorities. Thus, the structured learning format attempts to develop a composite of behavioural skills in a group of trainees whereas the micro-counselling approach adheres to single objectives for individual trainees.

The structured learning format (SLF) therefore seems well suited for use in training behaviour therapy within the triadic model. Also, its relative preponderance of practice (discovery and rehearsal) over didactic methods of instruction fits readily with the behavioural approach and the preference of nurses. However, lectures and modelling are also utilised, but largely to provide the "introductory framework" (Hale Report, 1964) and the way "inward from outward" (Shah, 1971). The essential learning is of the 'discovery' variety:

"I hear and I forget.
I see and I remember
I do and I understand"

(Ancient Chinese Proverb)
The SLF therefore consists of:-

(a) An explicit definition and description of each separate skill, this may involve lecturing, blackboard and programmed learning scripts.

(b) Modelling and instructions, which can be provided live or via audio-visual means.

(c) Role-playing and rehearsal.

(d) Some form of feedback.

As well as reflecting the ancient Chinese proverb, the SLF also embellishes the more formal distinction between symbolic, iconic and enactive learning modes (Bruner, 1966). This relationship together with the relative preponderance of each modality as used in this research is depicted in Table 3-4 below. It should be borne in mind that the projects follow the training and occur in the nurses' wards.

<table>
<thead>
<tr>
<th>TEACHING METHOD</th>
<th>LEARNING MODALITY</th>
<th>APPROXIMATE PERCENT OF TIME UTILISED</th>
<th>FUNCTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lecture</td>
<td>Symbolic</td>
<td>10%</td>
<td>Introduce and provide framework.</td>
</tr>
<tr>
<td>Blackboard, Programmed Learning Scripts</td>
<td>Iconic Symbolic</td>
<td>20%</td>
<td>Elaborate and confirm framework and ideas</td>
</tr>
<tr>
<td>Modelling</td>
<td>Iconic</td>
<td>20%</td>
<td>Prompting and demonstrating skills</td>
</tr>
<tr>
<td>Rehearsal and role-play projects</td>
<td>Enactive</td>
<td>40%</td>
<td>Experiment with techniques, learn by discovery, apply techniques</td>
</tr>
<tr>
<td>Discussion</td>
<td>Symbolic</td>
<td>10%</td>
<td>Feedback</td>
</tr>
</tbody>
</table>

Table 3-4: A breakdown of the structured learning format (SLF)

Research findings have indicated that the SLF is superior to a seminar format in improving behavioural measures of therapists' competence.
at social skills training, although there was no difference between the groups' effectiveness in actually training patients (Bouchard et al., 1980). In a similar study Wright et al., (1981) found the SLF superior to seminar and workshop formats in developing therapists' skills. Reliable improvements in trainee skill have also been obtained in standardised laboratory situations (e.g. Goldstein and Goldhart, 1973; Bailey et al., 1977).

In conclusion, the convergence of the practical need to train groups of nurses and the need to acquire skills rather than knowledge in behaviour therapy indicates that the SLF is the most appropriate teaching method for the present research.
(vi) Progression from Staff to Patient Training and Maintaining Training

In addition to indicating the relative ineffectiveness of single teaching methods, the literature in this area of staff training in behavioural techniques also strongly suggests that teaching alone will not generalise to changes in staff behaviour on wards (Stokes and Baer, 1977). There has therefore been an increasing amount of interest in the performance of ward staff following teaching, with various incentives being employed. For example, Bricker et al. (1972), Katz et al. (1972) and Pommer and Streebeck (1974) used monetary rewards, while others have made trading stamps (Hollander and Plutchik, 1973), time off work (Watson, 1972), supervisor approval (Montegar et al., 1977) and certification (Watson and Uzzell, 1980) contingent upon altered nurse behaviours on the ward.

These contingencies have all resulted in significantly improved levels of appropriate staff behaviour and partially resolve the historical tendency to 'train and hope' (Stokes and Baer, 1977) or, more commonly, 'train and forget' (no evaluation or follow-up).

All the maintenance techniques listed above are unavailable and inappropriate within the National Health Service. Therefore alternative strategies have to be introduced. The most fundamental of these is to tie the training to the routine contingencies of the nurses job - namely to help patients recover and to satisfy superiors. A project serves this purpose initially, by providing a structured and systematic single case study which can be expected to demonstrate the beneficial effects of the nurses use of the newly-acquired skills. This consequence has been found to be rewarding, and result in a subsequent increase in the nurses use of behavioural techniques with their patients (Hogg et al., 1971). One of the aims of the present research is to evaluate this stimulus generalisation.

The 'intrinsic reward' of effectively carrying out the nursing role can be supplemented by other maintenance strategies that are available within the National Health Service. These include modelling (Wallace et al., 1973; Ruger, 1973) and verbal and written feedback (Panyan et al., 1970; Green et al., 1978). Both strategies have been successful in the studies above. At Carlton Hayes Hospital the feedback
loop has been designed to incorporate the existing contingencies inherent in the nursing hierarchy. Thus, once the approval and support of the head nurse (the Divisional Nursing Officer*) has been obtained the next level (the Nursing Officers) are also required to support the maintenance of skills developed by nurses in training. One aspect of this is to report on the current levels of progress with behavioural programmes on their wards. This report is made regularly to a multi-disciplinary meeting, and the minutes sent to every ward. This feedback effectively monitors the level of behaviour therapy in use on each ward and may also serve a maintaining function in that it relates back to nurses on the ward a public record of their activities.

At ward level the gradual introduction of standard instruments (Checklists) has allowed the nurses to become more proficient and precise in estimating the amount and rate of patient change. Allied to the public posting (Pomerleau et al., 1972) of these results in the form of graphic displays of individual and group improvements in the nurses' offices, there exists a network of contingencies favouring the maintenance of the behavioural skills.

* I am deeply indebted to Mr. Gordon Sivewright for his support and assistance.
SUMMARY

This chapter was intended to provide a broad pedagogic overview of the dominant issues in staff training. These included a specification of the problems presented by long-stay psychiatric patients at Carlton Hayes Hospital together with the related difficulties facing the staff. It was argued that in both cases the problems are numerous and chronic, but that by adapting a triadic model with behavioural techniques as the change method it became possible to tackle these problems on a large scale. It was then argued that a comprehensive instructional strategy, utilising traditional didactic methods and behaviourally based enactive methods (labelled the structured learning format) was the most suitable teaching approach for promoting 'generalist' levels of nursing sophistication in behaviour therapy. No matter how successful an initial phase of training, the behavioural emphasis on contingencies occurring in the natural (ward) environment forces the trainer to consider ways of procuring a second 'maintenance' phase. Suggestions from the literature were considered but were largely rejected as unavailable within the National Health Service structure. Alternative contingencies including a public feedback system within the nursing hierarchy, monitoring of patient change and modelling were offered as more applicable options.

In conclusion, the arguments in this chapter provide a logical basis for implementing a staff training scheme that existing evidence indicates may be effective in ameliorating the numerous problems of the long-stay psychiatric patient. This review of the issues surrounding staff training show that it is essential to adopt a conception of training as an intervention into a complex system of individuals, groups and practices. As a consequence, a realistic appraisal of the intervention necessitates a comprehensive evaluation. This argument will continue to be developed in a subsequent chapter.
CHAPTER FOUR
A REVIEW OF THE NURSE TRAINING LITERATURE

"That constancy in a good method is the mean to make a scholar is by all affirmed; but which method of many that are used, is the best, is not easily determined. Sure we are, that the nearest, easiest and plainest is most grateful and rather if it lye along with the common-rode, which men are generally loth to foregoe, though it be not always the readiest way."

(Hoole, 1660, Epistle)
1. INTRODUCTION

The aim of this chapter is to examine systematically past studies of nurse training in behaviour therapy. Of particular interest will be the issues of subject variables, training methods, course content and evaluation. For the review, only articles meeting the following criteria were considered:

a. Published articles
b. Of in-service training schemes
c. Training either mental handicap or psychiatric nurses
d. In behavioural techniques
e. In groups
f. With some form of training evaluation
g. With training method as the independent variable

The reason for these criteria were to reduce the large amount of educational literature to those articles of immediate and obvious relevance to the present research. It has been estimated that there currently exist over 100 empirical studies of counsellor and clinician training (Ford, 1979). Articles of more general relevance to nurse training have been reviewed in the previous Chapter.

2. REVIEW: SUBJECTS, METHODS, CONTENT AND EVALUATION

As a result of these selection criteria sixteen articles were included in the review. These are now considered in chronological order with the major points of each article being mentioned in the narrative. Tables 4-1, 4-2, 4-3 and 4-4 provide the detailed aspects of each article by the four dimensions of subjects, training methods, course content and evaluation. A summary of the major issues deriving from these articles is then provided, together with a summary and critical comments.

The earliest study meeting the above criteria was Watson et al's (1971) course designed to assist nurses to train their severely and profoundly handicapped patients to use self-help skills. The course content emphasised stimulus control, contingent reinforcement and shaping techniques. Following a three week classroom phase, nurses had a
ward-based 'internship' training continuation lasting approximately five months. Traditional methods of teaching (lecture and discussion) were supplemented by video models, role-play and behavioural rehearsal. Progress through the course was contingent upon a score of at least 90% for each of the nine course units. This score was calculated from knowledge and proficiency in both role-play and ward contexts. The study lacked any description of the subjects and there was no baseline assessment. One of the particularly interesting features was the organisation of training around an 'itinerant team'. These nurses, already behaviourally trained, replaced ward staff thus enabling them to attend the course. During this period the itinerant team set up behavioural assessment and modification schemes that were then maintained by the nurses returning to the ward.

Martin (1972) reported a training scheme for thirty-one nurses working with severely mentally handicapped girls. The nurses were of all grades and received an initial twenty-five hour course followed by some supplementary units over a three to five week spell. It is not clear what the total training duration amounted to. In contrast, the course content is clearly detailed. It consisted of five units - specifying, recording and graphing, basic concepts, demonstrating procedures; structuring the environment and practise sessions on the ward. Teaching methods were lecture, discussion, live modelling, reading and rehearsal. Contingent progress through the units was again invoked, but evaluation was restricted to a count of the frequency with which trainees conducted ward-based projects with their patients. It was found that only those nurses who completed course units actually carried out projects. These projects were followed-up after one week and one month, but no data or conclusions are presented for this phase of the evaluation.

Gardner (1972) compared two groups of ten mental handicap nurses matched on knowledge, skills, attitudes and socio-economic class. These attendants were then given an introduction to contingency management and shaping during a fourteen hour course. Teaching methods were lecture, discussion and role-play, presented in a cross-over experimental design. Assessments of knowledge and proficiency were made immediately before (pre) and after (post) training, with an intermediate testing at
the cross-over stage. It was found that role-play resulted in superior proficiency scores and lectures in superior knowledge scores at the cross-over assessment (i.e. after seven hours of training). At the end of the course, however, there were no significant group differences. This indicated the absence of a training method order effect and a strong relationship between teaching method and mode of learning.

Panyan and Patterson (1973) trained eighteen mental handicap nursing attendants some behavioural approaches to measurement, plus shaping and reinforcement techniques. They focused on the nurses learning to give ten commands to the children (e.g. 'pick up the spoon'). Evaluation was pre/post, based upon ratings of video-tape recorded nurse/child training sessions. They concluded that modelling had been a significantly better teaching method for the nurses than discussion and reading in terms of the nurses use of reinforcement with their patients.

Bettison and Garlington (1975) ran a course for thirty-two staff working with the mentally handicapped. The majority of these were nurses, supplemented by some physiotherapists and social workers. They were taught basic learning theory principles, practical measurement and recording procedures during six two-hour seminars spread over four months. Lectures, discussion, reading and ward-based group projects formed the instructional basis of the course. Team-teaching and learning by discovery were emphasised. Evaluation was fittingly restricted to proficiency, with four projects being reported as 'clinically successful', two moderately so and two unsuccessful. These ratings were based solely on improvements in the patients.

Epling et al. (1975) trained six 'learner' psychiatric nurses on a course in behaviour modification principles and practical skills. They used a Keller self-paced format, with video modelling, programmed learning and a ward project as the teaching methods. Nurses were given the option of planning and implementing their own projects or of participating in an on-going programme. The course lasted a maximum of six weeks and evaluation was confined to the reading units completed by the learners. All units had to be satisfactorily completed (as gauged by
 quizzes and amount of units completed) for a recommendation to be conferred. Results were considered to be good, with five of the learners earning enough points for 'outstanding' recommendations to be made.

Butler and Rosenthal (1976) organised a thirty-three hour course (one day per week) for psychiatric nurses working with long-stay patients. Four topics were covered: the behaviour of the long-stay patient; approaches to patient care; measuring behaviour; and treatment. Traditional teaching methods were supplemented by video modelling, rehearsal and a ward-based project. However, the project was not necessarily a single-case study, and could equally well concern the development of a record sheet. It was reported that quizzes were administered but no results were presented.

Stern and Golden (1977) trained eleven qualified psychiatric nurses who volunteered to attend their introductory, thirteen hour course. Topics covered were principles and applications in observing and recording behaviour; behavioural analysis; constructing programmes and the role of the nurse. Lectures and discussion, video modelling, rehearsal and ward-based 'homework assignments' were the methods of instruction. A comparison or pre and post test scores indicated a significant ($p < 0.05$) increase in attitudes (self-perceived ability to change their children's behaviour) and proficiency. The latter measure consisted of an observational test and planning a treatment programme. A four month follow-up revealed a return to baseline on attitude and planning tests. The observational test was not re-administered.

Paul and Lentz (1977) compared the effectiveness of social learning and milieu trainings for two groups of psychiatric nurses. One year trainings consisted of an initial classroom phase followed by a practicum phase, and in any one year between nineteen and thirty-six nurses received this training. Their mean age was twenty-six, 76% were female and none were qualified nurses. They were matched on two attitude scales and had a mean education of 12.4 years (high school graduates). With the exception of programmed learning all teaching methods listed above were utilised, and although not detailed the course content appeared to be a comprehensive coverage of the relevant areas of behaviour therapy.
Assessments of their knowledge, attitudes and proficiency were conducted pre and post training with a succession of follow-up evaluations. Paul and Lentz (1977) reported significant ($p<0.05$) results at post-test and initial follow-up on all measures. Attitude scores reverted to baseline within twelve months of course completion.

Sepler and Myers (1978) investigated the value of lectures in teaching stimulus control, shaping, chaining and contingency management. A pre and post training evaluation of knowledge and the frequency and appropriateness of nurses responses to patients was conducted. The conclusion was that lectures were insufficient to develop the necessary skills for a workshop setting.

Schinke and Wong (1978) trained thirty mental handicap nurses behaviour modification principles and techniques. Systematic use was made of all teaching methods referred to above, with the additional use of contracts and homework tasks included in a twelve hour course. Knowledge, attitudes and proficiency were assessed, as also were attendance and participation. Significant ($p<0.05$) improvements were reported for all of these measures.

Bailey and Craze (1980) taught a sixty hour course in behaviour modification to ten nursing assistants working with the mentally handicapped. The course consisted of twelve topics, very much reflecting the contents listed above but with the addition of 'evaluating programmes' and 'analysing target behaviours'. Nurses' knowledge and patients' behaviour were assessed before and after the course. Although they found no significant change in their nurses' knowledge of behaviour modifications by the post-test assessment, Bailey and Craze (1980) did report significant reductions in the patients' problem behaviours (e.g. punching, biting, self-mutilation). They concluded that knowledge changes were not a necessary condition for effective proficiency changes in the nurses' behaviour modification skills.

Carsrud et al. (1980) provided a sixteen hour course to fifty-four mental handicap nurses. The course covered reinforcement and shaping procedures. These were taught by lectures, role-play and live modelling. Significant improvements were only reported for the patients
assigned to course trainees. A control group of patients, not so assigned, did not significantly change during the same period.

Watson and Uzzell, (1980) compared 'academic' and 'practicum' phases of training using a multiple-baseline design. Subjects were divided into two groups of twelve, and while one group served as control the other completed the first phase of training, and so on. The academic phase followed a self-paced, Keller format, utilising a programmed text of ten chapters covering reinforcement, shaping, stimulus control, managing disruptive behaviour and data collection. This was followed by a practicum phase based on role-play. The overall objective was to develop the aides' competence in teaching self-help skills to their mentally handicapped patients. The course was evaluated by a true-false knowledge test and an assessment of the nurses' proficiency. As with the preceding findings, academic training was most effective in increasing knowledge and practicum training was most valuable when measured on the proficiency scale. Staff were required to obtain a score of at least 95% on this latter measure throughout a two year post-training period. If they failed to do so they forfeited their certification.

Milne (1982) compared the effectiveness of 'passive' (lectures, discussion, reading) with 'active' (role-play, 'learning-by-discovery') teaching methods during two fifteen hour courses, for seven and five nurses respectively. The course content was identical for both courses, covering recording, functional analysis, goal-setting, prompting, shaping and the use of reinforcement techniques (time-out etc.). Both 'passive' and 'active' experimental groups were matched with control nurses on demographic variables and pre-test scores on knowledge, attitude and a proficiency test. Significant improvements were reported for the 'active' group only, on the knowledge and proficiency measures. At six month follow-up all 'active' nurses traced (N = 6) reported having conducted ward-based behaviour modification programmes, whereas only two 'passive' group nurses had done so. It was concluded that the 'active' training was a more successful and enjoyable educational programme for both trainer and trainee.

Finally, Hogg et al. (1981) trained a mixed disciplinary group of fourteen staff, including nine nurses, who worked with twenty-five
profoundly mentally handicapped children. Topics included the use of rewards, prompting, task analysis, chaining, discrimination and generalisation, imitation, time-out and punishment. The course lasted a total of eight hours with video models, reading and rehearsal as the teaching methods. Each trainee was assessed pre/post the course on their ability to teach relatively low and high functioning children two tasks (pick up toy and place beaker on top of another). Six categories were used to rate their skill, including use of reward and prompting. They found that trainees' group scores on this skill rating improved significantly for the two categories of reward and prompt only.
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>Female</td>
<td>-</td>
</tr>
<tr>
<td>Age</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>N =</td>
<td>-</td>
<td>31</td>
<td>20</td>
<td>18</td>
<td>32</td>
</tr>
<tr>
<td>Knowledge</td>
<td>-</td>
<td>-</td>
<td>Attendant Information Sheet (AIS)</td>
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<tr>
<td>Experience</td>
<td>-</td>
<td>-</td>
<td>General Nursing Aptitude Test (Train)</td>
<td>-</td>
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<td>Attitudes</td>
<td>-</td>
<td>-</td>
<td>Attendant Opinion Survey (AOS)</td>
<td>-</td>
<td>Voluntary Course Attendance</td>
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<td>Academic Education</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Nursing Qualifications</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>None</td>
<td>-</td>
</tr>
<tr>
<td>Status</td>
<td>-</td>
<td>Aides, Psychiatric Nurses and Attendants</td>
<td>Attendants</td>
<td>Attendants</td>
<td>-</td>
</tr>
<tr>
<td>Duration as Nurse</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>Newly Hired</td>
<td>-</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>500 Mental Handicap Patients in 15 Wards</td>
<td>15 Mental Handicap Girls</td>
<td>Also Matched on Socio-Economic Class</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Table 4-la: Subject Variables Reported in Literature Reviewed.
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</thead>
<tbody>
<tr>
<td>Sex</td>
<td>1 Female</td>
<td>5 Male</td>
<td>-</td>
<td>76% Female</td>
<td>24% Male</td>
</tr>
<tr>
<td>Age</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>Mean 26 years</td>
<td></td>
</tr>
<tr>
<td>N =</td>
<td>6</td>
<td>-</td>
<td>11</td>
<td>19-36 at any one time</td>
<td></td>
</tr>
<tr>
<td>Knowledge</td>
<td>None</td>
<td>-</td>
<td>1 subject &quot;familiar&quot; with behaviour therapy</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Experience</td>
<td>-</td>
<td>-</td>
<td>1 subject &quot;familiar&quot; with behaviour therapy</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Attitudes</td>
<td>Routinely Assigned</td>
<td>-</td>
<td>Volunteered from ward (N = 15)</td>
<td>Opinions about mental illness and therapist orientation sheet</td>
<td>-</td>
</tr>
<tr>
<td>Academic Education</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>High School Graduates</td>
<td>-</td>
</tr>
<tr>
<td>Nursing Qualifications</td>
<td>None</td>
<td>-</td>
<td>Qualified (R.M.N.)</td>
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<td>-</td>
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<td>Status</td>
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<td>-</td>
<td>&quot;Junior Staff&quot;</td>
<td>Sheltered Workshop Personnel</td>
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<tr>
<td>Duration as Nurse</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1 year</td>
<td>-</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>-</td>
<td>-</td>
<td>Acute Children Psychiatric Hospital</td>
<td>Chronic Mental Patients</td>
<td>Retarded Patients</td>
</tr>
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Table 4-1b: Subject Variables Reported in the Surveyed Literature
### Subject Variables Reported in the Surveyed Literature

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<tr>
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</thead>
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<tr>
<td>Sex</td>
<td>8 Male 22 Female</td>
<td>-</td>
<td>85% Female 15% Male</td>
</tr>
<tr>
<td>Age</td>
<td>Mean of 32 years</td>
<td>-</td>
<td>Mean of 37.3 years</td>
</tr>
<tr>
<td>N =</td>
<td>30</td>
<td>10</td>
<td>54</td>
</tr>
<tr>
<td>Knowledge</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Experience</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Attitudes</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Academic Education</td>
<td>High School Graduates</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Nursing Qualifications</td>
<td>-</td>
<td>None</td>
<td>-</td>
</tr>
<tr>
<td>Status</td>
<td>-</td>
<td>Nursing Assistants</td>
<td>-</td>
</tr>
<tr>
<td>Duration</td>
<td>Mean of 2.1 years</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>Retarded patients</td>
<td>10 severely subnormal problem children</td>
<td>Retarded patients</td>
</tr>
</tbody>
</table>

Table 4-1c: Subject Variables Reported in the Surveyed Literature.
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Sex</td>
<td>-</td>
<td>Matched</td>
<td>-</td>
</tr>
<tr>
<td>Age</td>
<td>34.2 years</td>
<td>Matched</td>
<td>Range 20-55 years</td>
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<td>N =</td>
<td>24</td>
<td>24</td>
<td>14</td>
</tr>
<tr>
<td>Knowledge</td>
<td>-</td>
<td>Behaviour Modification Questionnaire</td>
<td>-</td>
</tr>
<tr>
<td>Experience</td>
<td>-</td>
<td>Matched</td>
<td>-</td>
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<tr>
<td>Attitudes</td>
<td>-</td>
<td>Semantic Differential</td>
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<tr>
<td>Academic Education</td>
<td>11.8 years</td>
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<tr>
<td>Nursing Qualifications</td>
<td>None</td>
<td>All NHS Grade (1-6)</td>
<td>3 SEN 3 CN/Sister 1 Assistant 1 N. Nurse</td>
</tr>
<tr>
<td>Status</td>
<td>Aides</td>
<td>All NHS Grade (1-6)</td>
<td>3 SEN 3 CN/Sister 1 Assistant 1 N Nurse</td>
</tr>
<tr>
<td>Duration</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>Course followed by 6-month 'internship'</td>
<td>Mentally handicapped children</td>
<td>25 screened mental handicapped children with IQ greater than 25</td>
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Table 4-1d: Subject Variables Reported in the Surveyed Literature
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<th>TEACHING METHOD</th>
<th>AUTHOR</th>
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<tr>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>b) Discussion</td>
<td>✓</td>
</tr>
<tr>
<td>c) Video Model</td>
<td>✓</td>
</tr>
<tr>
<td>d) Live Model</td>
<td>-</td>
</tr>
<tr>
<td>e) Role Play</td>
<td>✓</td>
</tr>
<tr>
<td>f) Reading</td>
<td>✓</td>
</tr>
<tr>
<td>g) Ward-based (part at least)</td>
<td>✓</td>
</tr>
<tr>
<td>h) Programmed learning</td>
<td>-</td>
</tr>
<tr>
<td>i) Rehearsal and Feedback</td>
<td>✓</td>
</tr>
<tr>
<td>j) Miscellaneous</td>
<td>Contingent Progress</td>
</tr>
<tr>
<td>k) Order of Use</td>
<td>f, a, b, c, e</td>
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Table 4-2a: Teaching Methods Reported in the Surveyed Literature
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<tr>
<td>a) Lecture</td>
<td>-</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>b) Discussion</td>
<td>-</td>
<td>√</td>
<td>√</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>c) Video Model</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>-</td>
</tr>
<tr>
<td>d) Live Model</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>√</td>
<td>-</td>
</tr>
<tr>
<td>e) Role Play</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>√</td>
<td>-</td>
</tr>
<tr>
<td>f) Reading</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>-</td>
</tr>
<tr>
<td>g) Ward-Based (Part at least)</td>
<td>√</td>
<td>√</td>
<td>&quot;Homework Assignments&quot;</td>
<td>√</td>
<td>-</td>
</tr>
<tr>
<td>h) Programmed Learning</td>
<td>√</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>i) Rehearsal and Feedback</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>-</td>
</tr>
<tr>
<td>j) Miscellaneous</td>
<td>Keller self-paced points/ topic/ quizzes; project</td>
<td>Project</td>
<td>-</td>
<td>Contingent Progress</td>
<td>Frequent testing; Contingent reward; Masterly criterion for progress</td>
</tr>
<tr>
<td>k) Order of Use</td>
<td>f, c, h, j, g</td>
<td>-</td>
<td>a, b, c, i</td>
<td>f, a, b, c, d, e (apparently)</td>
<td>a</td>
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</table>

Table 4-2b: Teaching Methods Reported in the Reviewed Literature
Table 4-2c: Teaching Methods Reported in the Surveyed Literature

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<thead>
<tr>
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<tr>
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<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>b) Discussion</td>
<td>✓</td>
<td>✓</td>
<td>-</td>
</tr>
<tr>
<td>c) Video Model</td>
<td>-</td>
<td>✓</td>
<td>-</td>
</tr>
<tr>
<td>d) Live Model</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>e) Role Play</td>
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<td>-</td>
<td>✓</td>
</tr>
<tr>
<td>f) Reading</td>
<td>✓</td>
<td>-</td>
<td>✓</td>
</tr>
<tr>
<td>g) Ward-Based (part at least)</td>
<td>✓</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>h) Programmed Learning</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>i) Rehearsal and Feedback</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>j) Miscellaneous</td>
<td>Cueing; Reward trainees; Contracts; Homework assignments</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>k) Order of Use</td>
<td>a/b, d, e, i, k, f, g</td>
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Table 4-2c: Teaching Methods Reported in the Surveyed Literature

### Table 4-2d: Teaching Methods Reported in the Surveyed Literature

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<tr>
<td>a) Lecture</td>
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<td>✓</td>
<td>-</td>
</tr>
<tr>
<td>b) Discussion</td>
<td>✓</td>
<td>✓</td>
<td>-</td>
</tr>
<tr>
<td>c) Video Model</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>d) Live Model</td>
<td>-</td>
<td>✓</td>
<td>-</td>
</tr>
<tr>
<td>e) Role Play</td>
<td>✓</td>
<td>✓</td>
<td>-</td>
</tr>
<tr>
<td>f) Reading</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>g) Ward-Based (part at least)</td>
<td>✓</td>
<td>✓</td>
<td>-</td>
</tr>
<tr>
<td>h) Programmed Learning</td>
<td>✓</td>
<td>✓</td>
<td>-</td>
</tr>
<tr>
<td>i) Rehearsal and Feedback</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>j) Miscellaneous</td>
<td>Contingent progress following course, 6 month practicum, with 2 patients, with feedback and evaluation by TPS</td>
<td>Certificate (Reward)</td>
<td>Questions and Answers</td>
</tr>
<tr>
<td>k) Order of Use</td>
<td>f,h,a,b, = 'academic' c,e,g,i = 'practicum'</td>
<td>Group A: a, c/d, e, b,i Group B: a,h,b,c</td>
<td>f, Q and A, d,i</td>
</tr>
</tbody>
</table>

The table shows the teaching methods reported in the surveyed literature by Watson and Uzzell (1980), Milne (1982), and Hogg et al (1982). The methods include lecture, discussion, video model, live model, role play, reading, ward-based learning (part at least), programmed learning, rehearsal and feedback, and miscellaneous methods. The table also includes the order of use and the group assignments for the methods.
<table>
<thead>
<tr>
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<td>-</td>
</tr>
<tr>
<td>Recording Behaviour (and graphs, measuring)</td>
<td>-</td>
<td>✓</td>
<td>-</td>
<td>-</td>
<td>✓</td>
</tr>
<tr>
<td>Defining and Describing Behaviour</td>
<td>-</td>
<td>✓</td>
<td>-</td>
<td>-</td>
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</tr>
<tr>
<td>Stimulus Control</td>
<td>✓</td>
<td>✓</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Shaping</td>
<td>✓</td>
<td>-</td>
<td>✓</td>
<td>✓</td>
<td>-</td>
</tr>
<tr>
<td>Prompting</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<tr>
<td>Fading</td>
<td>-</td>
<td>-</td>
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<td>-</td>
</tr>
<tr>
<td>Chaining (Task Analysis)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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</tr>
<tr>
<td>Contingency Management (Reward, etc.)</td>
<td>✓</td>
<td>-</td>
<td>✓</td>
<td>✓</td>
<td>-</td>
</tr>
<tr>
<td>Broadly Assessment, Measurement (no further detail provided)</td>
<td>-</td>
<td>✓</td>
<td>-</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Broadly Treatment (no further detail provided)</td>
<td>-</td>
<td>✓</td>
<td>-</td>
<td>-</td>
<td>✓</td>
</tr>
<tr>
<td>Miscellaneous (e.g. Programmes)</td>
<td>-</td>
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<td>-</td>
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</tr>
<tr>
<td>Duration of Training (weeks)</td>
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Table 4-3a: Course Content by Surveyed Literature
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<td>-</td>
<td>-</td>
<td>✓</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Recording Behaviour (and graphs, measuring)</td>
<td>-</td>
<td>✓</td>
<td>✓</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Defining and Describing Behaviour</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<tr>
<td>Stimulus Control</td>
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<td>✓</td>
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<tr>
<td>Shaping</td>
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<td>✓</td>
</tr>
<tr>
<td>Prompting</td>
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<td>Fading</td>
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</tr>
<tr>
<td>Chaining (Task Analysis)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>✓</td>
</tr>
<tr>
<td>Contingency Management (Reward, etc.)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Broadly Assessment, Measurement (No further detail provided)</td>
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<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>-</td>
</tr>
<tr>
<td>Broadly Treatment (No further detail provided)</td>
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<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
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<td>Miscellaneous (e.g. Programmes)</td>
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<td>Long-stay patient behaviour</td>
<td>Prog- rammes role of nurse</td>
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<td>1</td>
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Table 4-3b: Course content by surveyed literature
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</tr>
<tr>
<td>Defining and Describing Behaviour</td>
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<td>✓</td>
<td>-</td>
</tr>
<tr>
<td>Stimulus Control</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Shaping</td>
<td>-</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Prompting</td>
<td>-</td>
<td>-</td>
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</tr>
<tr>
<td>Fading</td>
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</tr>
<tr>
<td>Chaining (Task Analysis)</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Contingency Management (Reward etc.)</td>
<td>-</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Broadly Assessment, Measurement (no further detail provided)</td>
<td>✓</td>
<td>✓</td>
<td>-</td>
</tr>
<tr>
<td>Broadly Treatment (No further detail provided)</td>
<td>✓</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Miscellaneous (e.g. Programmes)</td>
<td>Principles</td>
<td>Needs of Mental Handicap Person; programmes evaluation modelling</td>
<td>-</td>
</tr>
<tr>
<td>Duration of Training (weeks)</td>
<td>0.4</td>
<td>2</td>
<td>0.6</td>
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Table 4-3c: Course Content by Surveyed Literature
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<td>-</td>
</tr>
<tr>
<td>Recording Behaviour (and graphs, measuring)</td>
<td>✓</td>
<td>✓</td>
<td>-</td>
</tr>
<tr>
<td>Defining and Describing Behaviour</td>
<td>-</td>
<td>✓</td>
<td>-</td>
</tr>
<tr>
<td>Stimulus Control</td>
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</tr>
<tr>
<td>Shaping</td>
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<td>Prompting</td>
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</tr>
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<td>Fading</td>
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</tr>
<tr>
<td>Chaining (Task Analysis)</td>
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<td>✓</td>
</tr>
<tr>
<td>Contingency Management (Reward, etc.)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Broadly Assessment, Measurement (no further detail provided)</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Broadly Treatment (no further detail provided)</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Miscellaneous: (e.g. Programmes)</td>
<td>Influence of physical environments</td>
<td>Goal setting; programmes maintaining behaviour</td>
<td>Discrimination and generalisation; modelling</td>
</tr>
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<td>Duration of Training (weeks)</td>
<td>21 hrs. academic.</td>
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<td>0.25</td>
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Table 4-3d: Course Content by Surveyed Literature
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<th>EVALUATION METHODS</th>
<th>KEY:</th>
<th>AUTHOR</th>
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<tr>
<td></td>
<td>/ = Used with Course</td>
<td>Watson et al (1971)</td>
</tr>
<tr>
<td></td>
<td>- = Not used</td>
<td>Martin (1972)</td>
</tr>
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<td></td>
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<td>Gardner (1972)</td>
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<td>Panyan and Paterson (1973)</td>
</tr>
<tr>
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<td></td>
<td>Bettison and Garlington (1975)</td>
</tr>
<tr>
<td>Baseline (Pre-Test)</td>
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<td>-</td>
</tr>
<tr>
<td>Post-Test (Immediately after Course)</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Pre and Post Test</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Control Group</td>
<td>-</td>
<td>✓</td>
</tr>
<tr>
<td>Follow-Up</td>
<td>-</td>
<td>✓</td>
</tr>
<tr>
<td>Knowledge</td>
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</tr>
<tr>
<td>Attitudes</td>
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<td>-</td>
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<tr>
<td>Skill</td>
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<td>-</td>
</tr>
<tr>
<td>Assessed Patients</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>-</td>
<td>Assessed frequency percentage of subjects who completed projects</td>
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Table 4-4a: Evaluation Methods Used in the Reviewed Literature
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<td>✓</td>
<td>✓</td>
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<td>Post-Test (Immediately after Course)</td>
<td>-</td>
<td>-</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Pre and Post Test</td>
<td>-</td>
<td>-</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Control Group</td>
<td>-</td>
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<tr>
<td>Follow-Up</td>
<td>-</td>
<td>-</td>
<td>✓</td>
<td>✓</td>
<td>-</td>
</tr>
<tr>
<td>Knowledge</td>
<td>-</td>
<td>✓</td>
<td>-</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Attitudes</td>
<td>-</td>
<td>-</td>
<td>✓</td>
<td>✓</td>
<td>-</td>
</tr>
<tr>
<td>Skill</td>
<td>-</td>
<td>-</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Assessed Patients</td>
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<td>-</td>
<td>-</td>
<td>✓</td>
<td>-</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>-</td>
<td>-</td>
<td>Series of Follow-up Ass-</td>
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Table 4-4b: Evaluation Methods Used in the Reviewed Literature
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</thead>
<tbody>
<tr>
<td>Baseline (Pre-Test)</td>
<td>✓</td>
<td>✓ (Patients)</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Post-Test (Immediately After Course)</td>
<td>✓</td>
<td>✓ (Patients)</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Pre and Post Test</td>
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<td>✓ (Patients)</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Control Group</td>
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<td>-</td>
<td>✓</td>
<td></td>
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<td>Follow-Up</td>
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<tr>
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<td>✓</td>
<td>-</td>
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<tr>
<td>Attitudes</td>
<td>✓</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Skill</td>
<td>✓</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Assessed Patients</td>
<td>-</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>Meeting attendance; Participation; Assignments done</td>
<td>-</td>
<td>Emphasised maintenance</td>
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</tr>
</tbody>
</table>

Table 4-4c: Evaluation Methods Used by the Reviewed Authors
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<tr>
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</thead>
<tbody>
<tr>
<td>Baseline (Pre-Test)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Post-Test (Immediately after Course)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Pre and Post Test</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Control Group</td>
<td>✓</td>
<td>✓</td>
<td>-</td>
</tr>
<tr>
<td>Follow-Up</td>
<td>✓</td>
<td>✓</td>
<td>-</td>
</tr>
<tr>
<td>Knowledge</td>
<td>✓</td>
<td>✓</td>
<td>-</td>
</tr>
<tr>
<td>Attitudes</td>
<td>-</td>
<td>✓</td>
<td>-</td>
</tr>
<tr>
<td>Skill</td>
<td>✓</td>
<td>-</td>
<td>✓</td>
</tr>
<tr>
<td>Assessed Patients</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>Regular monthly skill assessments during 6 month practicum and subsequent 2 years</td>
<td>Simulated Skill Test</td>
<td>-</td>
</tr>
</tbody>
</table>

Table 4-4d: Evaluation Methods Used by the Reviewed Authors
It is apparent from a brief study of the preceding tables (4, 1-4) that a majority of cells were unfilled. This indicates that considerable data on subject variables, teaching methods, course content and evaluation procedures are absent from the reviewed research. This is so despite a conservative synopsis procedure that credited authors with given data regardless of its quality. For example, any attempt to assess knowledge, attitudes and skills (pre, post or follow-up) was credited in Table 4-4, a-c. Moreover, the majority of measuring instruments were ad hoc, without any reliability or validity data provided. This particular issue of measurement will be considered further in Chapters 5, 6 and 7.

As a summary of all four dimensions, Table 4-5a, b, c and d below provide percentages for each sub-category, affording an impression of the missing data and general rigour of the research.
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<thead>
<tr>
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<th>AUTHORS (N = 16)</th>
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<td>Sex</td>
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<tr>
<td>Age</td>
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<td>Knowledge</td>
<td>4</td>
</tr>
<tr>
<td>Experience</td>
<td>1</td>
</tr>
<tr>
<td>Attitudes</td>
<td>2</td>
</tr>
<tr>
<td>Academic Education</td>
<td>2</td>
</tr>
<tr>
<td>Nursing Qualification</td>
<td>4</td>
</tr>
<tr>
<td>Status</td>
<td>6</td>
</tr>
<tr>
<td>Duration as Nurse</td>
<td>2</td>
</tr>
</tbody>
</table>

Table 4-5a: Percent of Authors in Review who Reported Subject Variables
<table>
<thead>
<tr>
<th>Teaching Methods</th>
<th>Authors (N = 16)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
</tr>
<tr>
<td>Lecture</td>
<td>14</td>
</tr>
<tr>
<td>Discussion</td>
<td>12</td>
</tr>
<tr>
<td>Video Model</td>
<td>9</td>
</tr>
<tr>
<td>Live Model</td>
<td>7</td>
</tr>
<tr>
<td>Role Play</td>
<td>7</td>
</tr>
<tr>
<td>Reading</td>
<td>14</td>
</tr>
<tr>
<td>Ward-Based</td>
<td>9</td>
</tr>
<tr>
<td>Programmed Learning</td>
<td>3</td>
</tr>
<tr>
<td>Rehearsal and Feedback</td>
<td>12</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>11</td>
</tr>
</tbody>
</table>

**Table 4-5b:** Percent of Authors in Review who Utilised the Different Teaching Methods
<table>
<thead>
<tr>
<th>COURSE CONTENT</th>
<th>AUTHOR (N = 16)</th>
<th>HALL (1974) SURVEY (N=33)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N =</td>
<td>%</td>
</tr>
<tr>
<td>Behavioural Analysis</td>
<td>3</td>
<td>20</td>
</tr>
<tr>
<td>Recording</td>
<td>7</td>
<td>43</td>
</tr>
<tr>
<td>Defining and Describing Behaviour</td>
<td>3</td>
<td>20</td>
</tr>
<tr>
<td>Stimulus Control</td>
<td>4</td>
<td>25</td>
</tr>
<tr>
<td>Shaping</td>
<td>8</td>
<td>50</td>
</tr>
<tr>
<td>Prompting</td>
<td>3</td>
<td>19</td>
</tr>
<tr>
<td>Fading</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Chaining</td>
<td>4</td>
<td>25</td>
</tr>
<tr>
<td>Contingency Management</td>
<td>8</td>
<td>50</td>
</tr>
<tr>
<td>Broad Assessment</td>
<td>9</td>
<td>60</td>
</tr>
<tr>
<td>Broad Treatment</td>
<td>8</td>
<td>53</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>15</td>
<td>94</td>
</tr>
<tr>
<td>Duration (weeks)</td>
<td>56 (x 3.7)</td>
<td>-</td>
</tr>
</tbody>
</table>

Table 4-5c: Percent of Authors in Survey who Covered the Different Teaching Topics
<table>
<thead>
<tr>
<th>EVALUATION METHOD</th>
<th>AUTHORS (N=16)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
</tr>
<tr>
<td>Baseline</td>
<td>11</td>
</tr>
<tr>
<td>Post-Test</td>
<td>13</td>
</tr>
<tr>
<td>Pre and Post Tests</td>
<td>11</td>
</tr>
<tr>
<td>Control Group</td>
<td>5</td>
</tr>
<tr>
<td>Follow-Up</td>
<td>6</td>
</tr>
<tr>
<td>Knowledge</td>
<td>9</td>
</tr>
<tr>
<td>Attitudes</td>
<td>4</td>
</tr>
<tr>
<td>Skill</td>
<td>10</td>
</tr>
<tr>
<td>Assessed Patient</td>
<td>4</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>6</td>
</tr>
</tbody>
</table>

Table 4-5d: Percent of Authors who Used the Different Evaluation Methods.
3. SUMMARY

It is clear from the preceding data summaries contained in the tables above that nurse training research has not been conducted in a rigorous fashion. Considering each of the dimensions in turn, subject variables receive the lowest proportional representation. Only 22% of authors provided data on the ten variables listed. Of those, the nurses' experience with behaviour therapy is equal lowest (6%, i.e. one author). Given the emphasis within this field upon learning history as well as the obvious relevance of these data, this is a surprisingly low figure. Unfortunately, it is not compensated for by baseline assessments of knowledge and skill, since more than half the authors conducted no such evaluation. One must conclude that a variable of obvious a priori relevance has not been considered systematically as a contributory factor in the nurse training literature, e.g. as a predictor of outcome. The extent to which subject variables are associated with training outcome is unclear, and has not been addressed or clarified in any thorough fashion by this literature. In the broader field of behaviour therapy there is evidence for such subject variables as key determinants of outcome (e.g. Paul, 1966; Caine et al., 1982).

Considering next the use of teaching methods, it is clear from Table 4-5b that authors are utilising a number of techniques. Most frequently represented are the traditional methods of reading (88%), lectures (88%) and discussion (75%). Behaviourally orientated or based methods such as modelling (video, 56%, live, 47%), rehearsal and feedback (75%) and miscellaneous alternatives and additions (such as contingent progress; in total 69%) are well represented. However, role-play (44%) and programmed learning (19%) are less frequently used. The latter figure is particularly surprising, since programmed learning is the major example of the application of learning theory to education. This is especially striking in view of the frequency with which reading assignments are utilised by trainers. Overall, on average over half the authors make use of each of the ten methods listed. No method so listed is utilised by less than two authors, and the high 'miscellaneous' figure (69%) indicates that a broad range of educational devices, about fifteen distinctive examples, are employed.
Course content is far more variable and also contains some surprising findings. For example, only one of the authors refers to teaching 'fading', a well-known technique and one essential in maintaining therapy effects. Perhaps this is due to the almost equally low level of concern with maintenance. 'Analysing behaviour' is also poorly represented (20%), as is defining and describing behaviour (20%). It is perhaps a reflection on the level of sophistication targeted by authors, presumably applicator/technician status, that these topics, given great emphasis at more sophisticated levels of training, are relatively ignored. Kazdin (1975) described a direct focus on observable behaviour, as well as on situational determinants, as an essential element of behavioural approaches to assessment and treatment. The most common reference made by these authors is the broad coverages of behavioural assessment and/or therapy. This lack of specificity is inconsistent with that practised in the use of behavioural techniques in staff training and the general use of behaviour therapy. Also, it ignores one of the major questions in training (Matarazzo, 1978), referred to as the first and most critical issue in any training programme (Carkhuff, 1972).

A summary of British nurse training (Hall, 1974), based on a questionnaire survey of all N.H.S. hospitals known or believed to be training nurses in behaviour modification, is further summarised in Table 4-5c. This included psychiatric and mental handicap hospitals. Of forty-four questionnaires sent out, the thirty-three usable returns indicated a far closer content correspondence than was the case with the literature sample. This finding may simply be a consequence of the reporting format, which may have provided more prompts to respondents, or simply have allowed greater opportunity to elaborate on course contents. However, it does suggest a somewhat altered set of topic priorities, placing greater emphasis on recording, developing (shaping, prompting) and maintaining (contingencies) behaviour.

Undoubtedly one of the other major issues is training evaluation. It is striking to find just over two-thirds (69%) of nurse trainers utilising a baseline measure, a fundamental requirement of valid evaluation, whether or not single subject or group designs are used. In fact,
some authors carried out either no evaluation, relegating their training efforts and feedback to that of an 'appreciation course', or utilised minimal assessment such as the trainees perceptions of the course. Pre/post test assessments were conducted by 69% of authors, and control groups by 31%. Given the vogue for single-subject methodology within behaviour therapy this is not surprising. However, some potentially important factors are left uncontrolled by this design, including the effects of re-testing, maturation and other variables that are subsumed under the concept of time. Only three authors (20%) use pre/post tests in conjunction with a control group design. Follow-up assessments are also the exception rather than the rule, with six authors (38%) arranging them. Taking the view that a follow-up, preceded by pre/post tests and a control group represents a rigorous experimental design, only three authors are represented (19%). This is without taking into account the number or quality of measures used within this design. From Tables 4-4 it is clear that few authors (13%) assess knowledge, attitudes and skill, and some (19%) assess none of these. Regarding the quality of these measures the position is equally disturbing, with reliability and validity data provided for only one attitude measure, one knowledge measure and one skill measure. These measures are more fully discussed in Chapters 5, 6 and 7.

Hall's (1974) survey referred to the extent to which it was felt nurses were satisfied with training and with the difficulties associated with teaching some topics. It was estimated that in the majority of cases the nurses' behaviour was unchanged as a result of the training. As Hall (1974) concluded, this did not represent systematic evaluation.

In summary, and as shown in Table 4-6, subject variables are given very little prominence by the reviewed authors, some 22% of them on average stating any one of the ten variables found in this literature. It was argued that this is inconsistent with the theories emphasis on learning history and was also ignoring a potentially useful set of predictive variables.

Teaching methods were substantially more commonly used, with 62% of authors using each of the ten categories. However, the major method deriving from learning theory, programmed learning, was referred
to by one 19% of authors. This was despite 88% of them using reading in their training formats. In general however, a broad and systematic use was made of teaching methods.

<table>
<thead>
<tr>
<th>DIMENSION</th>
<th>PERCENT AUTHORS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Subject Variables</td>
<td>22</td>
</tr>
<tr>
<td>2. Teaching Methods</td>
<td>62</td>
</tr>
<tr>
<td>3. Course Content</td>
<td>35</td>
</tr>
<tr>
<td>4. Evaluation</td>
<td>50</td>
</tr>
</tbody>
</table>

Table 4-6: Overall Summary of the Percent of Authors Using Each of the Sub-Categories from the Four Dimensions.

Course content was far more variable, with only 21% of authors covering each of the ten specific topics listed. Very little emphasis was given to aspects of behaviour definition, description and analyses, despite the central part these are recognised as playing in behaviour therapy (Kasdin, 1975). Most frequently listed topics were simply 'behavioural' assessment and/or 'therapy'. Thus there was again a lack of specificity and consistency, in keeping with the "virtually non-existent" (Ford, 1979, p. 87) behavioural literature on training curricula.

The fourth and final dimension, evaluation, was also a surprise. The general rigour of experimental designs was very poor, with only three authors (19%) conducting pre and post tests, follow-up and control group designs. Multiple measures were also rare, with again only two authors assessing knowledge, attitudes and skill. This lack of systematic evaluation also typifies earlier British N.H.S. practice (Hall, 1974).
SUMMARY

In conclusion, the literature on in-service training in behaviour therapy for groups of psychiatric and mental handicap nurses is generally inconsistent with behavioural theory (methods, content, evaluation) and the training also lacks specificity and consistency in these dimensions. The research methodology is of a poor standard and therefore affords little understanding of the process or outcome of training in behaviour therapy. This conclusion is in agreement with that of several authors regarding training in behaviour therapy generally (Bernstein and Karan, 1978; Burkhart et al., 1976; Loeber and Weissman, 1975). For example, Wright et al. (1981) state "although there has been a good deal of theoretical and descriptive literature on the optimal learning conditions for the acquisition of behavioural therapist skills, little sound research has evaluated current training practices" (p. 326).

The conclusion of the present chapter is also consistent with the literature on evaluating competence in behaviour therapy (Wright et al., 1977), Matarazzo, 1978) and the view that this literature in general is not nearly as sophisticated as behaviour research on other topics (Loeber and Weisman, 1975).

As a final point, only four of the sixteen studies reviewed were conducted in the United Kingdom, and none with psychiatric patients. Indeed, Paul and Lentz's (1977) research programme is the only one concerned with adult psychiatric patients. This research differs in innumerable respects from the programme to be reported here, and so there is clearly a great gap in the literature for this programme to fill.
CHAPTER 5
MEASURING ATTITUDES

"There are so many factors in human behaviour, of which at present we have only an imperfect knowledge, that it is impossible to gauge them with sufficient accuracy to feel any confidence in the results."

Kimmins (1926)
The Child's Attitude to Life
Methuen & Co. Ltd., London
Staff attitudes towards their patients and to therapeutic techniques are widely assumed to be important elements determining the success of treatment programmes (McReynolds and Coleman, 1972; Watson et al., 1980; Paul and McInnes, 1974). This assumption is a popular one because social psychologists and others have regarded attitudes as related to social behaviour, particularly in the sense that they are viewed as precursors of and hence determinants of that behaviour (Cohen, 1964; Allport, 1966; Cattell et al., 1950).

The popularity of the attitude concept is reflected in the variety of conceptions held and is perhaps related to the difficulty in validating any of them. DeFleur and Westie (1963), in discussing the attitude as a scientific concept, state that an attitude is "not the manifest response, or its probability, but an intervening variable operating between stimulus and response and inferred from the overt behaviour. This inner process is seen as giving both direction and consistency to the person's responses." They opined that this 'latent process' conception was the most popular view of attitudes. However, this conception involved an assumption of attitude - behaviour consistency unaffected by context. A more plausible notion has been outlined by Campbell (1967) who suggested that the latent process was best construed as an 'acquired behavioural disposition' mediating behaviour but responsive to situational pressures. The power of such pressures were demonstrated in the classic Hartshorne and May (1928) studies of children's moral behaviour. The results of these studies clearly suggested that such behaviour as stealing were not consistent across situations or persons, and led some theorists to elaborate a theory based upon specific stimulus conditions (e.g. Mischel, 1973). In Mischel's 'social behaviour theory' the important predictors are the critical conditions and contingencies that evoke and provide consequences for behaviour, and the fundamental mode of assessment is observation in the natural environment.

In contrast, the traditional view of attitudes as enduring, generalised, learned predispositions implies some internal control of behaviour that leaves the mode of control ambiguous. Mischel's (1973) conceptions, by emphasising observable relationships between
individuals and behaviours, related to a behavioural component of an attitude, and as such would not be included in traditional definitions.

Two additional components have been operationally defined to clarify any causal relationships and aid measurement. They are affect and cognition. The affective component consists of a person's evaluation of, or feelings about, some object or person, in contrast to the cognitive element that concerns factual knowledge (Zimbardo-Ebbesen, 1970). It is this second definition that we will be concerned with, not least since it agrees with traditional notions of what an attitude is; but also, and largely because, in the present research the remaining components are measured directly under different headings. The definition that will be adopted here, therefore, conceives of an attitude as an evaluative feeling towards particular objects or persons (Insko and Schopler, 1967).

The second reason for the popularity of the attitude concept, suggested above, was the difficulty in invalidating it. If 'face validity' were an adequate test, then there is little doubt that it would be accepted, since the attitude concept belongs to a set of categories which the layman uses in construing personality (Brown, 1965). The tests of the social scientist have often not gone beyond the same verbal level, with the result that the validity of attitude measures, in terms of a relationship between overt non-verbal and verbal behaviour, is not known (McNemar, 1946; Deutscher, 1966) or is considered irrelevant (DeFleur and Westie, 1963). Summarising thirty-one empirical studies, Wicker (1969) stated that "it is considerably more likely that attitudes will be unrelated to or only slightly related to overt behaviours than that attitudes will be closely related to actions" (p. 65). He pointed out that only rarely could as much as 10% of the variance in overt behavioural measures be accounted for by attitudinal data, and argued for greater attention to situational factors. In concluding, he urges that researchers who believe that assessing attitudes is an easy way to study overt social behaviour should provide evidence that their verbal measures correspond to relevant behaviours.
It was in this spirit that attitude measurement was considered for the present research, with the additional considerations of providing continuity with the literature on attitudes in nurse training endeavours. This literature is now considered.

2. LITERATURE REVIEW

The characteristics of attitude metrics used in the reviewed nurse training literature (Chapter 4) are summarised in Table 5-la,b. It can be seen from this table that five of these sixteen authors made use of eight attitude scales, and that no two utilised the same scale. Furthermore, only one (Paul and Lentz, 1977) made use of previously published scales, the remainder creating their own measures. As a result, there is considerable variation between them, with multiple choice, true-false, and rating scale formats allied to item numbers ranging from twenty-one to one hundred and sixty. This diversity is to be contrasted with their homogeneity when dependability considerations arise, for none of these six measures were presented together with reliability or validity data. This consideration precludes the interpretation of results, since these may well be due to instrument-bound factors such as low test-re-test reliability.

An additional consideration, in seeking an appropriate questionnaire to assess attitudes, was that the above were of American origin. This presented problems of terminology and in comparing results. In searching the remaining literature on attitude measurement in nurses, two scales were located that overcame these reservations. The Attitude to Treatment Questionnaire (ATQ; Caine and Smail, 1966, 1967, 1968) was derived from systematic studies of British health workers, particularly psychiatric nurses (N = 118). Initially, one hundred and twenty-six items were selected for the ATQ following thirty-nine non-directive interviews with these personnel and with patients. These items were then put in the form of statements with which the respondent was asked to indicate their degree of agreement, ranging on a five point bi-polar scale from 'strongly agree' to 'strongly disagree'. By way of validation, the questionnaire was administered to 'known' groups from different specialised settings and who considered themselves to be orientated primarily towards physical treatments, therapeutic community, etc. The results, based on the chi-squared statistic, indicated that
Key:  = No information provided

<table>
<thead>
<tr>
<th>INSTRUMENT CHARACTERISTICS</th>
<th>AUTHORS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>GARDNER (1972)</td>
</tr>
<tr>
<td>Title</td>
<td>Attendant Opinion Survey (AOS)</td>
</tr>
<tr>
<td>Number of Items</td>
<td>115</td>
</tr>
<tr>
<td>Scoring Format</td>
<td>4-point scale</td>
</tr>
<tr>
<td>Reliability</td>
<td>-</td>
</tr>
<tr>
<td>Validity</td>
<td>-</td>
</tr>
<tr>
<td>Results</td>
<td>- (Used to match groups)</td>
</tr>
</tbody>
</table>

Table 5-1a: Summary of Attitude Measuring Instruments Used by Authors Surveyed in Literature Review.
Key: - = No information provided

<table>
<thead>
<tr>
<th>INSTRUMENT CHARACTERISTICS</th>
<th>AUTHORS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title</td>
<td>Opinions about Mental Illness (OMI) Therapist Orientation Sheet (TOS)</td>
</tr>
<tr>
<td>Number of Items</td>
<td>-</td>
</tr>
<tr>
<td>Scoring Format</td>
<td>-</td>
</tr>
<tr>
<td>Reliability</td>
<td>-</td>
</tr>
<tr>
<td>Validity</td>
<td>-</td>
</tr>
<tr>
<td>Results</td>
<td>Some significant subscale improvements on both OMI and TOS.</td>
</tr>
</tbody>
</table>

Table 5-1b: Summary of Attitude Measuring Instruments used by Authors Surveyed in Literature Review.
fourty of the items were distinguishing the two groups at
the 10% level or less. Factor analyses of the questionnaire
data indicated the existence of three components. These are
presented in Table 5-2 below, together with the variance.

<table>
<thead>
<tr>
<th>Component</th>
<th>% of Variance Accounted For</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Formal discipline; Impersonal approach; Physical treatments; Organic</td>
<td>13.9</td>
</tr>
<tr>
<td>2. Detached relationships; Professional 'persona'</td>
<td>8.0</td>
</tr>
<tr>
<td>3. Individual Relationships; Protection and Identification with patients; Psychological; Critical of medical authority</td>
<td>5.3</td>
</tr>
</tbody>
</table>

Table 5-2: A Summary of the Three Main Factors Identified in Nurses' Replies to the ATQ.

Caine and Smail (1969) have argued from these data that the
ATQ offers a valid measure of relevant attitudes to treatment, as
well as providing an estimate of the effect of training programmes.
In addition to the advantages accruing from a measure developed
with the N.H.S. psychiatric nurses, there are also data on the
reliability of the ATQ. A reliability coefficient of 0.79 was
obtained for a group of fifty-two psychiatric and general nurses
retested after 'about' a year interval (Caine, 1970), and a
coefficient of 0.76 was reported by Hall (1974) following a three
month test - retest interval with twenty-one student psychiatric nurses.
Caine et. al. (1981) report further support for the dependability
of the ATQ from the work of several other authors.

The only disadvantages attached to the use of the ATQ in the
present study lay in its development from therapeutic community
constructs, (e.g. "Patients should be discouraged from developing feelings towards staff members") and the weakness of its factor structure. For these reasons the forty item ATQ was only utilised in the first experiment (Chapter 9), and these data were subsequently re-analysed to provide a more behaviourally biased set of items and an improved factor structure. The revised ATQ, which used only twenty-four of the original forty items, formed the sole basis for attitude assessment in the second experiment (Chapter 10) and follow-ups. All ATQ data reported in the experiments are based on this revised version, as data from the initial version used in experiment one were confined to these twenty-four items in the final analyses.

The revised 'behavioural' ATQ was developed from two factor analyses (multiple components analysis, Nie et al., 1975). The first drew on a sample of fifty-nine ATQ's completed by psychiatric nurses, being the baselines for the experiment one subjects (N = 41) and the control group (N = 18). The results are presented below, in Table 5-3.

<table>
<thead>
<tr>
<th>Component</th>
<th>% Variance</th>
<th>Eigen Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. 'Organic'</td>
<td>13.2</td>
<td>5.28</td>
</tr>
<tr>
<td>2. 'Detached'</td>
<td>10.1</td>
<td>4.04</td>
</tr>
<tr>
<td>3. 'Psychological'</td>
<td>7.7</td>
<td>3.09</td>
</tr>
</tbody>
</table>

Table 5-3: Results of the First Factor Analysis of the Revised ATQ.

It can be seen that the factor structure is very similar to that reported by Caine and Smail (above). The test-retest reliability was found to be adequate, with no significant difference between the scores from the first and second administrations of the ATQ to the control group of subjects (for results, see Chapter 9). The revised ATQ was created by selecting only those items that loaded moderately heavily (≥ 0.4) on the three components and discarding the remainder. Also, the scoring was altered, as each item was defined...
as being either 'pro' or 'anti-behavioural', and scored accordingly. These designations were agreed by three clinical psychologists. For example "suggesting to patients underlying reasons for what they do" was regarded as an anti-behavioural statement, with the score increasing as nurses disagreed with it more strongly; whereas the statement "nurse-patient relationships can be just as effective in treatment as doctor-patient relationships" obtained a higher score with increasing agreement. The original 5-point scale was retained. In the second factor analysis this twenty-four item with altered scoring was re-analysed for all subjects' baseline data (N = 83). The results are given in Table 5-4 below.

<table>
<thead>
<tr>
<th>Component</th>
<th>% Variance</th>
<th>Eigen Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. 'Detached'</td>
<td>13.3</td>
<td>3.19</td>
</tr>
<tr>
<td>2. 'Behavioural Psychology'</td>
<td>11.1</td>
<td>2.66</td>
</tr>
<tr>
<td>3. 'Organic'</td>
<td>8.5</td>
<td>2.04</td>
</tr>
</tbody>
</table>

Table 5-4: Results from a Factor Analysis of the Twenty-Four Item 'Behavioural' ATQ.

It can be seen that the factor structure is altered, both in terms of the variance accounted for by the three factors and in the clarification of a 'behavioural psychology' component from the original factor three. The 'psychological' component has therefore become more clearly related to the focus of the core course training and to the other behavioural measures.

With these developments, the ATQ became an appropriately focused and psychometrically sound measure of the nurses' attitudes towards behaviour therapy. The revised, 'behavioural', ATQ is in Appendix I.

A final assessment of the ATQ that was carried out in the present research was a step-wise discriminant analysis (Nie et. al., 1975). This related subjects' scores obtained at the beginning and end of the
course with their progress in conducting projects, the ward-based final phase of the course.

The discriminant analysis consists of the phases of analysis and classification. In the analysis phase statistical tests (Mann-Whitney 'U' Test) are used to measure the success with which the discriminating variables, in this case the six course tests, actually discriminate between these two groups of nurses when combined into the discriminant function. The statistical significance associated with each variable or course measure is an indication of that test's capacity to differentiate the groups. A second criterion for estimating the value of the measures is to test for the statistical significance of discriminating information not already accounted for by the earlier functions. As each function is derived, Wilks' Lambda is computed, providing an inverse measure of the discriminating power of the original measures not yet removed by the discriminant functions. To re-phrase, the larger the lambda is, the less information remaining (Klecka, in Nie et al., 1975). The results of this analysis are presented in Table 5-5 below.

<table>
<thead>
<tr>
<th>Measures</th>
<th>Significance Level</th>
<th>Wilks' Lambda (Post-Test)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline</td>
<td>Post-Test</td>
<td></td>
</tr>
<tr>
<td>1. Conservatism Scale (C Scale)</td>
<td>NS</td>
<td>NS</td>
</tr>
<tr>
<td></td>
<td>.25 (NS)</td>
<td></td>
</tr>
<tr>
<td>2. Simulated Proficiency Test (SPT)</td>
<td>NS</td>
<td>p 0.05</td>
</tr>
<tr>
<td></td>
<td>.25 (NS)</td>
<td></td>
</tr>
<tr>
<td>3. Knowledge of Behavioural Principles Questionnaire (KBPQ)</td>
<td>NS</td>
<td>p 0.05</td>
</tr>
<tr>
<td></td>
<td>.45 (p 0.001)</td>
<td></td>
</tr>
<tr>
<td>4. Attitude to Treatment Questionnaire (ATQ)</td>
<td>NS</td>
<td>NS</td>
</tr>
<tr>
<td></td>
<td>.25 (NS)</td>
<td></td>
</tr>
<tr>
<td>5. Functional Analysis (FA)</td>
<td>NS</td>
<td>p 0.001</td>
</tr>
<tr>
<td></td>
<td>.67 (p 0.001)</td>
<td></td>
</tr>
<tr>
<td>6. Formulation and Treatment Plan (FTP)</td>
<td>NS</td>
<td>NS</td>
</tr>
<tr>
<td></td>
<td>.27 (p 0.001)</td>
<td></td>
</tr>
</tbody>
</table>

Table 5-5: A Summary of the Six Course Measures Discrimination Between Two Groups of Nurses.
The second phase or use of discriminant analysis, classification, follows this selection of a set of variables with satisfactory discrimination between the two groups of nurses. A set of classification functions can be derived which will permit the classification of new subjects with unknown group membership. It can also allow us to check the validity of the discriminant functions, since the original subjects can be classified to determine how many were correctly classified by the measures being used. The results of this procedure are presented in Table 5-6 below, and show that overall a mean 94% of nurses were correctly classified when all measures were used to discriminate.

<table>
<thead>
<tr>
<th>Group</th>
<th>N=</th>
<th>Predict Implement</th>
<th>Predict Not Implement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project ('implementers')</td>
<td>13</td>
<td>85%</td>
<td>15%</td>
</tr>
<tr>
<td>No Project</td>
<td>18</td>
<td>0%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 5-6: Classification Results Indicating that the Discriminant Function was Valid.

The result of this analysis shows that the ATQ contributes very little to the discriminant function, and therefore that it is not related to the main objective, the project. As a measure it does not successfully discriminate between 'adopters' and those who do not carry out a project.

A second attitude measure was also used for the first experiment. This was the Conservatism Scale (Wilson and Patterson, 1968). The reason for including the 'C' Scale were reports that a flexible, non-authoritarian attitude was essential to the continuity of behavioural treatment schemes (Suchotliff et al., 1970). Hall (1974) reported some evidence that initial attitudes of general conservatism were related to performance on a token economy ward and especially so to the ward report on each student psychiatric nurse in his sample. Hall (1974) concluded that the assessment of conservatism may be of value in specialised training programmes, although there was no significant change in the scores of his twenty-one subjects over a three month allocation to the ward.
The relevance of the notion of 'conservatism' has frequently been utilised in describing a hospital's social environment (Wilson, 1973), and Caine et al., (1981) viewed it as second only to direction of interest as the adjustment strategy of staff that underlies attitudes to treatment. One reason offered for this prominence has been the view that, in contrast to attitude items which typically refer to items outside the individual, conservatism refers to a general disposition to behave, largely regardless of the particularities of objects, problems or issues (Eysenck, 1954; Ray, 1973).

The frequent use of the conservatism description has led to the creation of several questionnaires. However, these have been weak, for example having ambiguous questions, leading questions and evaluative wording (Wilson and Nias, 1973, Peabody, 1966). These weaknesses have encouraged Wilson and Patterson (1968) to create a new measure of conservatism in an attempt to overcome some of these problems and hence to measure this variable rather than the "ignorance and confusion" (p. 264) arising from previous questionnaires. For example, instead of statements they have made use of single words and labels representing various controversial social issues such as 'censorship'. The issues covered encompass pacifism, divorce, punishment, radicalism, socialism, religion and institutional authority. As a result of factor-analytic studies, these have been shown to measure a general factor of conservatism-radicalism (Wilson, 1973). Caine et al. (1981) saw the Conservatism Scale ('C' Scale) of Wilson and Patterson (1968) as involving an underlying generalised attitude to authority and control.

The 'C' Scale was constructed by first listing these characteristics, such as insistence on strict rules and punishments, which might be expected in the extreme conservative. Next, one hundred and thirty items thought to discriminate these characteristics were chosen, and on the basis of item analysis fifty were selected. These were then randomly ordered within the constraint of alternating affirmatively and negatively scored items. The maximum possible score was one hundred, with the response options of 'yes', 'no', or '?'. Subjects were presented with the questionnaire stating: "Which of the following do
you favour or believe in?", and were asked to only use the '?' option if 'absolutely uncertain'. The full questionnaire is in Appendix 2.

Reliability was established by a split-half consistency coefficient calculated by correlating total scores on the first twenty-five items with total scores on the second twenty-five. The resulting coefficient was 0.947 (N = 244), which was taken as evidence of very high internal consistency.

Validity was estimated by the 'known groups' procedure, as used in the development of the ATQ. In the case of the 'C' Scale, the known groups were the 'New Left Club' (Socialist), the 'Junior National Party' (Conservative), and the 'Gideons', a group organised for the purpose of placing Bibles in hotel rooms. The resulting scores were presented graphically, with little overlap between a priori conservative and non-conservative groups. Data for ten occupational groups were also reported for standardisation purposes. Wilson and Patterson (1968) concluded that the 'C' Scale was a reliable and valid measure of a significant area of behaviour, and circumvented the objections applied to alternatives.

The authors recognised that different findings might emerge with a non-New Zealand population, and also suggested that the scale merited further investigation. Both points were addressed in the present investigation. The full findings are given and discussed in Chapter 9, but for current purposes comparative data are given below in Figure 5-1. This graph illustrates the mean scores obtained by nurses from the Hall (1974) and current studies, and relates them to the original data. This shows that the British nurses' scores are intermediate between the extreme scores of the 'known' New Zealand groups, and that student nurses (N = 21, Hall, 1974) are less conservative than qualified staff. An age-related increase was also found by Wilson and Patterson (1968), and affords the most parsimonious account of this difference between the two British groups. The nurses assessed in the present research (N = 62) therefore appear to occupy an intermediate position on the conservatism continuum, and their scores are similar to those obtained in the original paper's standardisation by unskilled workers (N = 45) and professionals (N = 53).
Regarding further investigations of the scale, several points emerged in the course of the present research. The first, chronologically, was the reaction of subjects to the items on the scale. These were regarded as moderately extreme on the hilarity dimension, with frequent remarks on the anachronistic nature of some items ('beatniks', e.g.) and their apparent irrelevance, if not irreverence (e.g. 'striptease shows', 'nudist camps' and 'casual living'). In addition to this low 'face validity', it was also found that the 'C' Scale was insensitive to the effects of training. These effects were clearly evident on the five other course tests, so the 'C' Scale also lacked empirical validity. Finally, it contributed very little to the discriminant function. For these reasons the 'C' Scale was dropped from the course assessment after Experiment 1.

The belated discovery of a revised version of the 'C' Scale (Wilson, 1975) has not altered these issues. However, it did provide evidence of high internal reliability and an underlying unidimensional conservatism factor with an English sample (Wilson, 1970). It also provided more recent terms to replace dated ones. Given the ephemeral nature of these, though, they perpetually lag behind the times (e.g. 'beatnicks' was replaced by 'hippies').

In terms of both attitude measures it was also interesting to find a shortened version of the 'C' Scale (Kirton, 1978). This resulted from a factor analysis of new data and provided a more elegant factor structure and internal consistency, in much the same manner as did the above analysis and revision of the ATQ.
3. SUMMARY

The use of attitude measures within psychiatric nursing is rare (Lillie, 1973), despite the prevalent view that attitudes are regarded as important determinants of a nurse’s commitment to a therapeutic activity. In the literature reviewed on nurse training, only five of fifteen authors utilised attitude scales, and none reported dependability data. Two further scales that were psychometrically sound and relevant to the population studied were described. These were the Attitude to Treatment Questionnaire (Caine and Smail, 1966; 1967; 1968) and the Conservatism Scale (Wilson and Patterson, 1968). The ATQ in its published form distinguished between two broad approaches to psychiatric treatment, namely the psychological and the organic. Further development of the ATQ as described above led to a reduction in the items, an improvement in the factor structure, and a clarification of the 'psychological' approach to a focus on a behavioural orientation. The 'C' Scale was selected as an additional attitude scale since it represented a measure of a prevalent feature of the social psychology of the long-stay hospital, not directly gauged by the ATQ. However, four findings led to the withdrawal of the 'C' Scale from the assessment battery. The first of these, chronologically, was the low face validity of the scale. Nurses were not generally prepared to take it seriously, as many of the items were outdated ('beatniks', 'pyjama parties') or simply absurd. Secondly, the discriminant analysis of the six core course tests indicated that it contributed very little to the discriminant function. Finally, and unlike the ATQ, it was relatively insensitive to change. As a result of these findings only the ATQ was retained for the second experiment and follow-up assessments.
CHAPTER 6

MEASURING KNOWLEDGE

"We live in deeds, not years;
in thoughts, not breaths;
He most lives
who thinks most -
feels the noblest -
acts the best."

(Bailey, 1816-1902)
1. **INTRODUCTION**

In contrast to the attitude dimension, little research has been concerned with the role of knowledge or theoretical understanding in the training of behavioural techniques. This is particularly so in the case of nurses, whereas some attention has been focused on other mediators, such as parents' and students' knowledge (O'Dell, et al., 1979).

The aim of this chapter is to critically review the small literature bearing on this issue and thereby resolve an approach to assessing knowledge of behaviour therapy amongst the present group of nurses.

2. **LITERATURE REVIEW**

In his seminal article, Gardner (1972) evaluated the effectiveness of role-play and lecture methods of instruction, utilising focused measures of skill and knowledge respectively. His prediction that these methods would result in circumscribed changes was borne out by the data, which showed the irrelevance of lecture for promoting skill acquisition and of role-play for fostering knowledge. He operationally defined knowledge as a verbal skill measured by a questionnaire, the Behaviour Modification Test (BMT). This definition has been adopted by the remaining authors reviewed in Chapter 4. Seven of these sixteen made use of questionnaires, two using the BMT. A summary of the features and findings are presented in Table 6-1 below. As with the attitude measures there are numerous unfilled cells, indicating that the authors have not provided details of their questionnaires. Once again, this includes the very little information on the dependability of these measures, if such information exists. Only two authors provided reliability data, and another gave a concurrent validity result (Watson, et al., 1971). Nonetheless, five of the seven report good results, ranging from the \( p \leq 0.05 \) level to the finding that knowledge was "effective" (Sepler and Myers, 1978). All results replicated Gardner's (1972) finding.

There is clearly, therefore, a series of weaknesses in the measurement of knowledge in this literature, and dependability data would be necessary prior to adopting any of the questionnaires. A more straight-forward option was to obtain a relevant and psychometrically sound instrument from amongst those already available in the wider
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</tr>
</thead>
<tbody>
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<td>INSTRUMENT CHARACTERISTICS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Title</td>
<td>Beh. Mod. Test (BMT)</td>
<td>BMT</td>
<td>Verbal Proficiency</td>
<td>Objective Knowledge Questionnaire</td>
<td>Training Opinion Questionnaire</td>
<td>-</td>
<td>Knowledge Questionnaire</td>
</tr>
<tr>
<td>Items</td>
<td>229</td>
<td>229</td>
<td>-</td>
<td>25</td>
<td>-</td>
<td>-</td>
<td>22</td>
</tr>
<tr>
<td>Scoring Format</td>
<td>True/False</td>
<td>True/False</td>
<td>-</td>
<td>True/False</td>
<td>Multiple choice (four category)</td>
<td>True/False</td>
<td>Multiple choice (four category)</td>
</tr>
<tr>
<td>Intended to Measure</td>
<td>Knowledge</td>
<td>Knowledge</td>
<td>Knowledge</td>
<td>Knowledge of principles, techniques and terminology</td>
<td>Knowledge of principles and reinforcement theory</td>
<td>Evaluate academic training</td>
<td>Knowledge</td>
</tr>
<tr>
<td>Manner of Administration</td>
<td>Paper and pencil</td>
<td>Paper and pencil</td>
<td>-</td>
<td>-</td>
<td>Paper and pencil</td>
<td>Paper and pencil</td>
<td>Paper and pencil</td>
</tr>
<tr>
<td>Reliability</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>Inter-rater (scorer) agreement: 98%</td>
<td>$r = .92$</td>
</tr>
<tr>
<td>Validity</td>
<td>Concurrent $r = 0.89$ with TPS (see skill)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Results</td>
<td>0.05 improvement</td>
<td>-</td>
<td>&quot;effective&quot;</td>
<td>p ≤ 0.05 improvement</td>
<td>No significant change</td>
<td>Score improved substantially following training (no statistic used)</td>
<td>Significant improvement (p ≤ 0.05) for 'Active' group only</td>
</tr>
</tbody>
</table>

Table 6-1: Summary of Knowledge Measuring Instruments Used by the Authors Surveyed in the Literature Review
literature. Two such instruments were located. The first, developed by Sanders and Webster (1982), was a knowledge measure gauging nurses' understanding of behavioural methods with chronic pain patients. Known as the Pain Assessment Questionnaire (PAQ) it was designed to gauge knowledge of behavioural principles and their applications to pain behaviour. Although the PAQ was inappropriate in its focus, in terms of the present research, it is instructive to note its development and psychometric properties in relation to the literature reviewed above. The internal structure and consistency of the PAQ was assessed by carrying out a factor analysis and retaining only those items with significant loadings. Item analysis was conducted and positive correlations indicated an acceptable level of internal consistency. Reliability was evaluated by the split-half method, yielding a coefficient of $r = 0.79$, which was significant at the $p < 0.001$ level. The validity of the PAQ was assumed from its direct derivation from typical work situations ('content validity') and was established by significant differences obtained between trained and untrained groups ('construct validity').

The second knowledge measure found in the wider literature was one reported by O'Dell, et. al. (1979) for use with parents being trained in behavioural methods. This Knowledge of Behavioural Principles as Applied to Children (KBPAC) questionnaire is a fifty-item multiple forced-choice test in which the parent is instructed to select the response which has the greatest probability of producing the desired effect. The issues covered in the KBPAC are basic behavioural assumptions about behaviour change principles in the use of reinforcement and punishment, schedules, shaping, counting and recording, differential attention and extinction. It is therefore a broader questionnaire than the PAQ, and has the additional advantage of being readily applicable to psychiatric nurses. It was also of known and sound psychometric constitution.

The KBPAC was developed by collecting behavioural principles found in four 'standard' texts, and having these rated for their clarity and representation of the above principles. The best seventy from the original one hundred and five items were then administered to a group of one hundred and two subjects, mostly parents, who differed widely in their professed knowledge of behavioural principles. Those items having
the best correlations with the overall test (i.e. ≥ 0.30) were then combined with a further set of new items, and administered to a new sample of one hundred and forty-seven respondents, selected as above. Following the analysis of these data, the fifty items with the highest correlations with the total score were retained to comprise the KBPAC.

Split-half reliability based on the basis of odd-even item correlations was 0.93. The content validity was assumed by the source of items, although some 30% of the principles derived from the original texts were excluded as a result of the item analyses. Construct validity was estimated by comparing the results of known groups and of parents and students before and after a five-hour behavioural principles training course. Both trained groups significantly increased their scores by the post-test, the parents from 48 to 85%, the students from 57 to 85%.

O'Dell, et. al. (1979) concluded by emphasising that 'verbal knowledge' may not relate to actual skill, and hence that behavioural inferences from scores obtained on the KBPAC would be inappropriate. They also pointed to the high internal consistency of the test, even with split-half administration. This feature made it possible to use the odd and even items as separate, parallel knowledge measures. In this format the KBPAC was used to assess knowledge and thereby also to address the question of the relationship between different response dimensions such as attitudes and skills. It was clear from the above findings that skill and knowledge were distinct dimensions.

Prior to adopting the KBPAC for the present study, it was considered valuable, primarily for face validity reasons, to alter the emphasis of items from parent-child to nurse-patient. In the majority of cases this simply involved substituting the terms, and in others there was no mention of an agent and hence no change was necessary. Where there were more difficult 'translations' a second opinion was sought, with the 'correct answer' being retained as a guide. American terms (e.g. 'trash') were also translated. The test was then re-christened the Knowledge of Behavioural Principles Questionnaire (KBPQ). It is in Appendix 3.
The next step in its redevelopment was to validate it. This was achieved by administering it to eight qualified clinical psychologists whose training and current practice represented a self-reported 'great deal' (51-75%) use of behavioural principles. Their scores were then compared with those obtained by the behaviourally untrained experimental group nurses. The significant difference between these scores was regarded as evidence of the construct validity of the KBFQ. Table 6-2 below summarises these results, and those obtained by O'Dell, et al. (1979). It can be seen that the lowest score was obtained by the G.B. nurses before training, and that they only attain the baseline level of the U.S.A. groups by post-training. That this accurately reflects their

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean % Score Before</th>
<th>Mean % Score After Training</th>
</tr>
</thead>
<tbody>
<tr>
<td>O'Dell: Parents</td>
<td>25</td>
<td>48</td>
<td>85</td>
</tr>
<tr>
<td>O'Dell: Students</td>
<td>91</td>
<td>57</td>
<td>85</td>
</tr>
<tr>
<td>Milne: Clinical Psychologists</td>
<td>8</td>
<td></td>
<td>78</td>
</tr>
<tr>
<td>Milne: Nurses</td>
<td>65</td>
<td>34</td>
<td>56</td>
</tr>
</tbody>
</table>

Table 6-2: Results Obtained on the Knowledge Questionnaire by 'Known' Groups

knowledge level rather than an undue American bias to the KBFQ is borne out by the results of the G.B. clinical psychologists, whose score is similar to post-training results for the two American groups. Validity was also evident from the before and after training differences for the nurse and student groups. Such a change could not be attributed to factors associated with the re-administration of the KBFQ, since test-retest reliability was assessed in the control group. As the more detailed results in Chapter 9 show, there was a non-significant difference between the scores obtained by these eighteen subjects on the two administrations, at the same interval as for the experimental group. The re-developed KBFQ was therefore regarded
as a psychometrically sound measure of knowledge.

The discriminant analysis, outlined and tabled in the previous chapter, indicated that the KBPQ was the third largest contributor to the discriminant function and significantly discriminated between the project and non-project groups by post-test.
SUMMARY

Measures of knowledge are not as widely used as attitude assessments. However, in the nurse training literature they share weaknesses in their development, including most fundamentally a lack of dependability data. In contrast, knowledge measures developed to assess nurses' understanding of pain behaviour and parents' understanding of their child's behaviour, were psychometrically sound. The latter case was redeveloped for the purposes of the present research, being altered to suit British nurses. Validity and reliability were re-assessed and were found to be adequate.

The KBPQ made a sizeable and significant contribution to the discriminant function and was found by O'Dell et al. (1979) to be sensitive to the effects of training both parents and students. In sum it therefore appeared to be the most suitable measure of knowledge for the present research. It was considered valuable to use a measure of knowledge so as to elucidate the relationship between training methods and outcomes in parallel to that indicated by attitude and particularly skill assessments. More generally, it represents a recognised part of change evaluation in clinical psychology, where cognitive change is considered alongside affect and behaviour.
"No matter how full a reservoir of maxims one may possess, and no matter how good one's sentiments may be, if one has not taken advantage of every concrete opportunity to act, one's character may remain entirely unaffected for the better" (W. James, the Principles of Psychology 1890, V.1, p. 125)
1. **INTRODUCTION**

The aim of this chapter is to critically review the literature concerning the assessment of skill in behaviour therapy, and to select or create methods of measuring this proficiency that are suitable for the present research. Data on skill are of particular relevance, given the emphasis on overt behaviour within this model (Rachlin, 1970).

It is paradoxical, therefore, that so little behavioural research has attempted to measure skill, particularly since behaviour therapy has generated so much therapy related research (Hoon and Lindley, 1974). There are very few controlled studies that have focused upon ultimate, on-the-job performance for the evaluation of training programmes (Paul et al., 1973; Greene, et al., 1978; Wright et al., 1977). Furthermore, the few such studies that exist have been plagued by problems resulting from 'halo' effects, lack of specificity of behaviours, by a willingness to use rating scales exclusively and by other difficulties (e.g. Giebank and Stover, 1969; Coe et al., 1967). Others have argued that the ultimate test of a therapist's skill are changes in their patients' problem behaviours (Matarazzo, 1971). Even fewer controlled studies exist with this kind of data. Such an approach was used by Bailey and Craze (1980), who regarded the assessment of reductions in their nurses' mentally handicapped patients' problem behaviours as evidence of nurse training. As no concurrent measurement of the nurses' skill was attempted, and as there was no control group for the patients, the inference is untenable. The observed changes could have derived from several independent variables, including the nurses' increased use of techniques quite unrelated to those taught to a 'Hawthorn effect' (Ayllon and Azrin, 1964), or to the 'passage of time'. Bailey and Craze (1980) recognise that such time intervals could, for example, have contained changes in medication and other variables that are, in practice, difficult to control.

A solution to such interpretation difficulties is to assess both therapist skills and the patient's progress (Gardner et al., 1970), particularly since this assists with the pin-pointing of any learning problems on either side. This is extremely uncommon, with only two
examples being known to the author, namely Paul and Lentz (1977), and Marks et al. (1977). Even this latter study, the major nurse-training venture in Britain, appears to have given little weighting to the assessment of trainees, devoting only a one page summary in a one hundred and fifty page book. However, the tests of skill are broad and cover therapeutic procedures such as social skills training, interviewing to carry out a behavioural analysis, and conducting observations. It is not stated precisely how these skills were evaluated, for example the rating of therapy skills was based on a "minimal proficiency test based on in vivo or simulated situations" (p. 30). In contrast, assessment of outcome with patients is given detailed coverage.

2. LITERATURE REVIEW

The literature reviewed in Chapter 4 is summarised in Table 7-1 below, with respect to the measurement of skill. It can be seen that ten of the sixteen authors made an attempt to evaluate skill. As with the measurement of other domains, reviewed in Chapter 5 and 6 above, there is a bewildering array of measures and only one instrument, the TPS used by more than one author. The common features were a definite preference for assessing clearly specified trainer behaviours, such as a limited set of commands (e.g. Hogg et al., 1981) and doing so in the 'real' or 'natural' environment for nurse-patient interactions. Also improved were the reports of the instruments with seven of the ten stating reliability data. However, only one author (Gardner, 1972) provided evidence bearing on validity. Rather than representing an omission, this may well reflect a widely held view that 'face' and 'content' validity are adequate criteria when measuring overt behaviour. This is particularly plausible when, as for example in Hogg at al.'s (1981) case, the therapist behaviours are clearly defined and limited subsets of the broader notion of 'behaviour therapy skill'. Validation of a more stringent kind (e.g. concurrent, criterion) would be necessary were the broader notions imputed, as some authors have done (e.g. Agras, 1971; Krasner, 1969).
<table>
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<tr>
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</thead>
<tbody>
<tr>
<td>Title</td>
<td>-</td>
<td>Training Proficiency Scale (TPS)</td>
<td>-</td>
<td>'Projects'</td>
</tr>
<tr>
<td>Items</td>
<td>-</td>
<td>30</td>
<td>10</td>
<td>-</td>
</tr>
<tr>
<td>Scoring format</td>
<td>90% score for role-play and real</td>
<td>5 point rating scale</td>
<td>Frequency of commands</td>
<td>Global rating (e.g. 'successful')</td>
</tr>
<tr>
<td>Intended to Measure</td>
<td>Skill</td>
<td>Proficiency in applying Beh. Mod. techs.</td>
<td>Quantity &amp; quality of P - N interaction</td>
<td>Effects of nurse training</td>
</tr>
<tr>
<td>Manner of administration</td>
<td>Role-play then real child</td>
<td>In role-play situation</td>
<td>E. Observed</td>
<td>Judged by E.</td>
</tr>
<tr>
<td>Reliability</td>
<td>-</td>
<td>Inter-rater: = 0.89</td>
<td>87 - 100% (trainer car)</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>Split half: = 0.97</td>
<td>84 - 100% (child care)</td>
<td>-</td>
</tr>
<tr>
<td>Validity</td>
<td>-</td>
<td>Criterion = 0.96 (Experienced raters)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Results</td>
<td>-</td>
<td>0.001 improvement bet. groups &amp; evaulation points.</td>
<td>Sig. improvement (0.05) in nurses skill</td>
<td>4 projects: 'successful' 2 moderately successful, 2 not successful</td>
</tr>
</tbody>
</table>

Table 7-1: Summary of skill assessment measures used by the authors surveyed in the literature review.
<table>
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</thead>
<tbody>
<tr>
<td><strong>Title</strong></td>
<td>-</td>
<td>Staff-Resident Interaction Chronograph (SRIC)</td>
<td>Application Proficiency</td>
<td>Naturalistic Observation</td>
</tr>
<tr>
<td><strong>Items</strong></td>
<td>10</td>
<td>5 classes of resident behaviour. 21 classes of staff behaviour.</td>
<td>-</td>
<td>29</td>
</tr>
<tr>
<td><strong>Scoring Format</strong></td>
<td>Ratings</td>
<td>Frequency</td>
<td>Frequency count of 3 categories. (+, -, neutral)</td>
<td>2 x 12 min. samples per nurse &amp; patient</td>
</tr>
<tr>
<td><strong>Intended to Measure</strong></td>
<td>Skill in observing &amp; recording behaviour</td>
<td>Objective measure of 'on the floor' performance</td>
<td>Frequency &amp; appropriateness of N-P behaviours.</td>
<td>Frequency, duration &amp; latency of N-P behaviour.</td>
</tr>
<tr>
<td><strong>Manner of Administration</strong></td>
<td>Video tape. 10 - 30 second segments.</td>
<td>Observation by research team.</td>
<td>Observation by E.</td>
<td>Naturalistic observation; real-time indexing.</td>
</tr>
<tr>
<td><strong>Reliability</strong></td>
<td>R = 0.77</td>
<td>R = 0.99</td>
<td>-</td>
<td>Inter-rater: 73% frequency 72% Latency 92% Duration</td>
</tr>
<tr>
<td><strong>Validity</strong></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Results</strong></td>
<td>p = 0.001 improvements pre-post</td>
<td>Int: training group sig. better scores then prof. training group.</td>
<td>&quot;Considerable improvement in desired directions&quot;</td>
<td>Significant improvement range. p = 0.05 p = 0.0005</td>
</tr>
</tbody>
</table>

Table 7-1: Summary of skill assessment measures used by the authors surveyed in the literature review.
<table>
<thead>
<tr>
<th>SKILL (3)</th>
<th>AUTHORS</th>
</tr>
</thead>
<tbody>
<tr>
<td>HOGG et al 1981</td>
<td>WATSON AND UZZELL 1980</td>
</tr>
<tr>
<td>Title</td>
<td>Index of Performance (I.P.)</td>
</tr>
<tr>
<td>Items</td>
<td>Pre-trial performance Task presentation Assisting performance reinforcing performance controlling performance</td>
</tr>
<tr>
<td>Scoring Format</td>
<td>Ratings of two 10 minute blocks of nurse training child</td>
</tr>
<tr>
<td>Intended to Measure</td>
<td>Skill in employing items above</td>
</tr>
<tr>
<td>Manner of Administration</td>
<td>Two 10 minute blocks pre &amp; post of nurse training High and low functioning Child two tasks</td>
</tr>
<tr>
<td>Reliability</td>
<td>46% on pre-tests 71% on post-tests</td>
</tr>
<tr>
<td>Validity</td>
<td>-</td>
</tr>
<tr>
<td>Results</td>
<td>I.P.: Significant (p 0.05) improvement on assisting &amp; reinforcing performance items.</td>
</tr>
</tbody>
</table>

Table 7-1: Summary of skill assessment measures used by the authors surveyed in the literature review.
3. MEASURING SKILL IN THE WARD SETTING

The reviewed research on skill measurement was therefore superior on psychometric grounds to that concerned with attitudes or knowledge. Once again, however, there were obstacles to the ready adoption of any one or more of these instruments for the purposes of the present research. Some were too circumscribed (e.g. Stern and Golden, 1977), and others were unrelated to the psychiatric context (Hogg et al., 1981). The measure that was obviously relevant was the Training Proficiency Scale (TPS, Gardner et al., 1970, 1972). Unlike the remaining measures, the TPS could be administered within the constraints of single subject casework, so minimising the amount of time required to gather broader observational data encompassing numerous staff and patients (e.g. Sepler and Myers, 1978; Paul and Lentz, 1977; Schinke and Wong; Panyan and Patterson, 1975). This latter domain was considered a relevant adjunct to the focused and limited observation entailed by the TPS, and is discussed in the next Chapter.

The TPS is a twenty-eight item, five-point rating scale that covers the skills of reinforcing, shaping, communicating and establishing rapport. These components were identified following extensive meetings with personnel experienced in training the mentally handicapped. They include 'starting with the correct step' (shaping), 'gives the reward quickly' (reinforcing), 'uses child's name before command' (communicating) and 'gets acquainted before training' (rapport) items. In their original study (1970), a group of twenty nursing attendants were trained to instruct a severely mentally handicapped resident in obeying simple commands, such as 'sit down'; and in self-help skills, e.g. putting on a vest. The assessment took place within a role-play procedure, nurses taking turns to play self or patient. This was done to avoid problems occurring with patients, such as the wide individual differences and the narrow range of behaviour sampled in any one session. In total, the assessment lasted fifteen to thirty minutes. The initial reliability of the TPS in this context was gauged by calculating two raters interscorer reliability. Eight trainers were rated, and a correlation of 0.55 was obtained between these two observers. A second phase, using two raters of equivalent experience resulted in an average correlation of
0.78, based on ten trainers' role-plays. Split-half reliability based on the odd-even method for these ten protocols was 0.97. Test-retest reliability after one week was 0.86 for a sample of seven trainers. The validity of assessing role-plays rather than actual working situations was established by comparing these two sets of data for seven trainers. The resulting correlation was 0.87.

Validity was assessed by concurrent ratings of trainers by two observers making global evaluations of ten experienced trainers preceded by ratings based on the TPS. High correlations between these two scores and the TPS were obtained (0.96 and 0.84 for the respective raters), although they recognised the contaminating effects of the prior ratings and so had a third judge globally rate the trainers. The correlation between this rating and the TPS scores of the other two raters were 0.98 and 0.88 respectively. Gardner et. al. (1970) also validated the TPS by comparing scores on a knowledge test and having the raters indicate which of two trainers had performed best. Both sets of data indicated that the TPS was actually measuring skill.

A later version of the TPS (Watson et. al. 1972) extended the item number to thirty-seven, within the original four components, and more significantly switched scoring from ratings to frequency-derived scores. Thus, if the trainer demonstrated an item every time they were credited with full marks. The significance is that a frequency count is both more appropriate, being an objective measure of behaviours, and yet more problematic from the practical viewpoint since it requires longer periods of observation. Within the limited resources of the present research, it was clearly more practicable to develop the brief, rating format. The development was necessary so as to reduce the TPS to the fewest relevant items and to add some new ones of more frequent use in the psychiatric nursing field. Of assistance in this task was a British Rating Scale, also developed for use with the mentally handicapped, and known as the 'Trainee Assessment Form' (TAF', McBrien, 1978). This was itself derived from an earlier thirty-one category 'Behaviour Assessment Form' (Riddick and Kiernan, 1973). The TAF is used to rate a trainee's practical skill in using the behaviour modification techniques taught on the course. The course was part of the EDY project ('Education of Developmentally Young Mentally Handicapped Children') whose aim was to enhance these children's learning by specialist teaching. The Hogg et. al. (1981) article is a summary of this aspect of the project.
The TAF is used during the ten-unit course so as to monitor progress and provide a basis for the instructor’s feedback. The instructors were given training in the use of the TAF, starting with material from a demonstration tape then proceeding to live material rated on six skill categories. These are summarised in Table 7-2 below.

<table>
<thead>
<tr>
<th>Skill Category</th>
<th>Rating Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Facilitates Task Orientation</td>
<td>Gains child's attention at start of training e.g. eye-contact, physical prompting.</td>
</tr>
<tr>
<td>2. Presents Task</td>
<td>Consistent instructions with appropriate gestures and modelling.</td>
</tr>
<tr>
<td>3. Physical Prompt</td>
<td>Used when child fails to respond or begins to make incorrect response e.g. contiguous and skilful prompting.</td>
</tr>
<tr>
<td>4. Verbal Feedback</td>
<td>Talking during a task in a way that is not contributing to its completion. Minimal and appropriate speech.</td>
</tr>
<tr>
<td>5. Child's Response</td>
<td>Refers to behaviour of child, and specifically to the amount of prompting required for a perfect response.</td>
</tr>
<tr>
<td>6. Rewards</td>
<td>Immediate, enthusiastic, appropriate and contiguous.</td>
</tr>
</tbody>
</table>

Table 7-2: Summary of the TAF Skill Categories and Rating Criteria. Each category is rated on a bi-polar, five-point scale ranging from 'incorrect response' to 'excellent response'.

Agreement ratings from six instructors were 49% prior to and 73% following the training in using the TAF. These results were viewed as suggesting that the instrument had good objectivity. Reliability was considered to be enhanced by requiring each instructor to record fifteen to twenty training trials as a 'settling in' period, these data being discarded from the final analysis. Also, reliability was improved by minimising variations in the children's behaviour by restricting the ratings to one distraction-free setting.
Development of the TAF was not considered to be currently at the point of providing guidance to instructing the trainee in a live situation (Foxon, 1978). This is because the instructor has the simultaneously incompatible roles of observer and teacher.

The major drawbacks of the TAF for the present research were its questionable extension in use from classroom to ward settings, and its categories. Its advantages were a greater objectivity than Gardner et. al.'s (1970) instrument (the original TPS), and its brevity and ready applicability to the current objective of rating the skill of psychiatric nurses in ward based patient training. The TAF and TPS were therefore useful bases for the development of an instrument to meet this objective rather than already suitable measures.

The Behaviour Therapy Proficiency Scale (BTPS) was the title given to the new instrument. The initial phase of development consisted of category selection. The relevant items from the TPS and TAF were the behaviour shaping and contingency management items, for example 'physical prompt' and 'reward' from the TAF and 'gives the reinforcement quickly' and 'starts with the correct step' from the TPS. Additionally, the TPS provided criteria for a data collection category. Absent from both instruments, however, were categories and criteria related to controlling 'excess' or problem behaviours. Both instruments focused exclusively on therapist skills related to 'deficit' problems (e.g. dressing, washing). Given that the present research required a more flexible, comprehensive measure it was necessary to add criteria encompassing the use of punishment and extinction consequences. As a result of these considerations the BTPS consisted of the five categories summarised in Table 7-3 below. These categories closely reflected the TAF, with alterations being made to the criteria included, and to their specificity. This was achieved by listing only three criteria for each skill, so that decisions about the proficiency demonstrated could be rapid and relatively straightforward. The scoring system was based on these criteria, with each item given equal weighting. As a result, the total scores could range from 0-15. A manual and record sheet (in Appendix 4) were prepared and used by the rater when checking skill in behaviour therapy. This manual outlined 'broad' and 'specific' criteria for scoring in each category. The broad criteria are listed in Table 7-3 below. The specific ones
<table>
<thead>
<tr>
<th>Skill Category</th>
<th>Rating Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Presenting the Session</td>
<td>a) obtains patient's attention</td>
</tr>
<tr>
<td></td>
<td>b) starts at an appropriate level</td>
</tr>
<tr>
<td></td>
<td>c) uses the proper sequence of steps</td>
</tr>
<tr>
<td>2. Providing Prompts</td>
<td>a) prompts used in the correct order</td>
</tr>
<tr>
<td></td>
<td>b) given in the correct manner</td>
</tr>
<tr>
<td></td>
<td>c) and at the correct time</td>
</tr>
<tr>
<td>3. Applying Contingencies</td>
<td>a) consistent use of consequence (i.e. contingent)</td>
</tr>
<tr>
<td></td>
<td>b) immediate consequences (i.e. contiguous)</td>
</tr>
<tr>
<td></td>
<td>c) appropriate</td>
</tr>
<tr>
<td>4. Ending the Session</td>
<td>a) removes cues</td>
</tr>
<tr>
<td></td>
<td>b) stops contingencies</td>
</tr>
<tr>
<td></td>
<td>c) reinstates or arranges activities for the patient</td>
</tr>
<tr>
<td>5. Data Collection</td>
<td>a) accurate records</td>
</tr>
<tr>
<td></td>
<td>b) complete records</td>
</tr>
<tr>
<td></td>
<td>c) summary of data (e.g. graph)</td>
</tr>
</tbody>
</table>

Table 7-3: The Behaviour Therapy Proficiency Scale (BTPS) Categories and Criteria.

elaborated the possible relationships between them. For example, in the 'data collection' category a subject might keep partially accurate and complete records. The score credited for such possibilities and guidelines on arriving at a decision were listed in the manual.

The checklist nature of the BTPS was expected to facilitate its use and improve reliability. However, a minor emphasis was given to qualitative aspects of proficiency, as with the TAF. These evaluative and more subjective criteria ranged from 3 ('excellent') to 0 ('incorrect', 'very poor'). This secondary basis for arriving at a rating of the subject's skill was only used when the broad and specific criteria were inadequate.
Once the checklist and manual were drafted and piloted a study of its dependability was conducted. The inter-rater reliability assessment involved the author and senior colleague in independent observations of subjects during training sessions. As a result of these and discussions, three successive drafts of the BTPS were prepared. The final one resulted in acceptable levels of reliability (77%; 0.76 weighted kappa). Validation took two forms, concurrent and criterion. Concurrent validation was obtained by having four raters view both video-taped and live training sessions. Two of the raters were experienced in the use and training of behavioural skills and provided global ratings on the BTPS qualitative scale. One observer used the TPS and the author used the BTPS. Percent agreement between the three independent raters indicated that the BTPS had 65% perfect agreement and 85% agreement + one score point with global ratings and 100% agreement with TPS. The TPS and global ratings also agreed 100%. There was therefore evidence that these three methods produced similar results, and hence that the BTPS was a valid measure of skill in using behavioural techniques. A second form of validation followed, when skill rankings of the four observed trainers by all raters were compared with the total scores obtained on the BTPS. There was complete agreement, indicating that the BTPS was making valid discriminations between levels of skill. The BTPS was therefore regarded as a dependable measure of the range of behavioural skills demonstrated by subjects in the ten training sessions studied. That it was also 'face valid' for the range of skills found in the single-case projects was borne out by the adequacy of the five skill categories in subsuming these skills without need for additional categories or criteria after the third draft and the dependability studies.

Prior to the implementation of the projects, subjects were asked to prepare a written plan. This provided an indication of their understanding of assessment and treatment techniques, and of their ability to place this in the context of a behavioural programme. This plan was assessed according to five criteria, including specification of the target response, formulation of the problem, and methods of recording and procuring change. The manual used in scoring these plans is in Appendix 5, as is the record sheet provided to assist them in writing out their plans.
In addition to measuring skill in the ward context, it is also relevant to assess aspects of behavioural skill in the classroom. The reasons for this are numerous, and for current purposes include greater ease and efficiency in conducting assessments, providing more contiguous feedback to instructor and subject and allowing specific, predetermined skills to be evaluated. In conducting a project, a subject will make use of only a limited range of assessment and therapeutic techniques, typically under less than ideal circumstances for both therapist and rater. It is highly probable, if not inevitable, therefore, that some key behavioural skills will either not be assessed or will be judged in limiting circumstances. In a sense, then, the constraints of ward based and classroom assessment are complementary: the ward assessment provides the most relevant and significant impression of skills in a 'natural' clinical framework, and the classroom phase permits a more comprehensive but less direct indication of skill. We will now turn to the development of three measures of skill that were suitable for classroom administration and were intended to complement the BTPS.

4. MEASURING SKILL IN THE CLASSROOM

One of the fundamental skills required in the nursing role and in behaviour therapy is to carry out observations. Yet, in the nurse-training literature, reviewed in Chapter 4, only one study assessed this skill (Stern and Golden, 1977). They used an edited video tape of a boy conducting a variety of activities. The tape was broken down into ten thirty second segments, spaced by ten second intervals. Each subject was asked to write a description of the child's activities during each of the ten segments. Comparisons of scores obtained for correct identifications and the use of descriptive language before and after the seven hour training course indicated highly significant (p ≤ 0.001 differences for identifications but not for language.

This form of assessment was suited to a classroom administration. Additionally, it was high on face validity, since the task required the same skills wherever presented. However, it was likely that it was in some ways simplified, e.g. by the removal of extraneous
activities, and demands on the subjects attention and time. The most appropriate form of material to present and the precise demands of the task dictated a moderately complex segment of patient activity and an orientation to the more structured and helpful functional analysis format for observing. In the present research, therefore, a mealtime interaction between two males was depicted, and subjects were asked to record four pieces of information. First they had to choose a focus for their observation, e.g. eating food or talking. They next were asked to note the frequency of the given behaviour and the things that occurred before (antecedents) and after (consequences) the selected behaviour. To facilitate this, they were given a record sheet with these headings and instructions on the task. This included mention of the triple showing of the short interaction episode, and the tester advised them that a further two minutes would be allowed for writing once the video stopped. The video also provided the headings as prompts. The record sheet and verbatim content of the episode are in Appendix 6.

This task was of greater relevance to the content and aims of the course, and to behavioural assessment, which places the 'A-B-C' or functional analysis at its heart (Kanfer and Saslow, 1969). Also, the video's content permitted subjects to select a range of behaviours to record on the part of either of the actors.

A second domain assessed by Stern and Golden (1977), was their subjects' ability to plan a treatment programme. They set this task by providing a one page case history of a ten year old boy who was 'aggressive and disruptive' in the classroom, and who would not obey his parents. Long-hand replies were scored by two independent raters, who judged the plans according to fourteen criteria, including observing the child and identifying behavioural excess and deficits. The total number of criteria present represented the score.

This task was also used in an adapted form in the present research. The following changes were made. The functional analysis video episode was repeated once more and the subjects were then given a few minutes to reply to two questions: firstly, what made the patient that they had focused on behave as he did; and secondly what could be done
to alter this behaviour. In essence, what was sought was a formulation and treatment plan (FTP), which became the title of the task. This record sheet is Appendix 7.

A third and final classroom measure was considered valuable, so as to gauge the more interactive skills such as how to deal with given patient behaviours under simulated conditions. The test was called the Simulated Proficiency Test (SPT). It consisted of a ten episode video tape that covered a range of opportunities to choose behavioural responses to excess and deficit problems. These included patients who were unable to remove cardigans or shoes, and the nurses' use of consequences for table-setting, verbal abuse, 'psychotic' talk and stealing. In the instructions on the record sheet it was emphasised that subjects should choose one of the four possible answers to each episode on the basis of how they would react to each situation, had they been involved. The SPT record sheet is Appendix 28.

The majority of the episodes stopped at the point where the depicted nurse was about to make his or her response, so as to reduce bias arising from any modelling effects. The episodes were based on realistic events, being derived from the experiences of the author and the nurses who volunteered as actors in the making of the video. The SPT is similar to the 'critical incident simulation' technique (Ryback, 1967) but differs in using video presentation. All three classroom measures of skill were considered in terms of their reliability and validity. The details and results are given in Table 7-4 below. It can be seen that reliability was acceptable in all cases except that of the formulation and treatment plan (FTP). Validity was established by the 'known groups' or 'criterion' method, with ten professionals (seven qualified clinical psychologists; three nurse therapists) providing the 'expert' panel. All had stated that their training and current practice emphasised a 'great deal' (31-50% of the time) or a 'very great deal' (51-100%) of behaviour therapy.

Calculation of percentages in Table 7-4 was based on perfect agreement. The initial answers of the expert judges on the SPT were used to determine the 'correct' answers to the depicted vignettes. Two items received less than 80% agreement between judges and were excluded from the analysis. The remaining eight episodes were then
Re-scored to obtain the mean percent scores for all groups.

<table>
<thead>
<tr>
<th>Classroom Measure of Skill</th>
<th>Validity</th>
<th>Reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Criterion Group</td>
<td>Subjects</td>
</tr>
<tr>
<td></td>
<td>MEAN %</td>
<td>BASELINE MEAN %</td>
</tr>
<tr>
<td>(Inter-Rater)</td>
<td>(Test-Retest)</td>
<td></td>
</tr>
<tr>
<td>Functional Analysis (FA)</td>
<td>70%</td>
<td>26%</td>
</tr>
<tr>
<td>(Kw = .75)</td>
<td>(N.S.)</td>
<td></td>
</tr>
<tr>
<td>Formulation and Treatment Plan (FTP)</td>
<td>80%</td>
<td>23%</td>
</tr>
<tr>
<td>(Kw = 1)</td>
<td>increase (N.S.)</td>
<td></td>
</tr>
<tr>
<td>Simulated Proficiency Test (SPT)</td>
<td>80%</td>
<td>48%</td>
</tr>
<tr>
<td>(Kw = 1)</td>
<td>decrease (N.S.)</td>
<td></td>
</tr>
</tbody>
</table>

Table 7-4: A Summary of the Dependability Data for the Three Classroom Measures of Skill

The 'correct' answers to the FA and FTP were determined in advance in terms of consistency with behaviour therapy. The FA was scored in terms of the clarity and accuracy of replies, and a manual was prepared to facilitate scoring (Appendix 8). For example, the frequency count was scored according to its agreement with the actual frequency of the given response on the video. Scores for each category of the FA could range between 0-3, with a total possible maximum of 12. Similarly, the FTP was scored in terms of criteria outlined in a manual (Appendix 9). These included reference to environmental events such as antecedents in the formulation section, and to appropriate behavioural techniques in the treatment part.

In summary, the three classroom administered measures encompassed a range of skills clearly relevant to the 'core' course and to empirically defined behaviour therapy competence. The ability to
record and conduct a functional analysis (FA), to formulate and describe a treatment plan (FTP), and to select behaviourally correct responses to patients' excess and deficit problems (SPT) were complementary to one another and to the ward based evaluation (BTPS). The psychometric properties of the FA and SPT were adequate, whereas the FTP was unreliable in terms of inter-rater consistency. However, all three were reliable with respect to test-retest considerations, as evidence by the absence of a significant change between baseline and post test scores of the control group (Chapter 9 provides details).

The discriminant analysis, reported in Chapter 5, shows the FA to be the outstanding test in terms of accounting for the variance. At both baseline and post-testing it is a greater contributor to the discriminant function than all five remaining core course tests combined. In terms of the variance, by post-testing the FA accounted for 74% of the 89% accounted for by all six measures (two attitude, one knowledge, three skill). The FTP and SPT contributed far less to the discrimination between subjects who successfully adopted behavioural techniques and those who did not.
5. SUMMARY

Following a review of the skill measures used in the relevant nurse training literature, four instruments were adapted or created to form a comprehensive assessment of skill in using behavioural methods of assessing, formulating and treating patients' problems. One of these was a measure of proficiency in conducting a programme on the ward (Behaviour Therapy Proficiency Scale - BTPS). The BTPS was versatile and could be administered in brief periods of observation. The three remaining measures were designed for administration in the classroom phase of training and utilised video presentation. One focused on observation skills (the Functional Analysis Test - FA) and proved to be the best discriminator of 'adopter' versus 'rejector' nurses, accounting for 74% of the variance in the discriminant analysis. A second related test was of the subjects' skill in formulating a problem in behavioural terms and suggesting a treatment plan. Finally, there was a Simulated Proficiency Test (SPT) which examined how nurses said they would deal with a series of episodes of patients' excess and deficit problems.

All measures were subjected to analyses of their reliability and validity. Only the FTP proved unreliable in terms of inter-rater agreement. The remaining tests were found to be dependable as a result of good inter-rater and test-retest reliability, and significant differences in the predicted direction between the criterion group of experts and subjects.

The four skill measures were viewed as providing a complementary and comprehensive assessment of the most relevant dependent variable in behaviour therapy: behaviour.
CHAPTER 8

"AN ECOLOGICAL PERSPECTIVE IN BEHAVIOURAL ASSESSMENT"

"The more the structure surrounding a problem is incorporated within and treated as part of the problem, the more any solution is likely to be radical and innovative"

(Kirton, 1976, p. 622)
1. INTRODUCTION

The purpose of this chapter is to describe an expanded behavioural analysis of the problems and issues surrounding nurse training, and to argue that this analysis is essential to an understanding of such interventions. The expanded analysis is subsumed under the heading of 'behavioural ecology', since many of the concepts, parallels and examples derive from ecology.

The ecological perspective is often alluded to, but infrequently defined (e.g. McGuire, et al., 1977). Its value to applied psychologists, and particularly behavioural psychologists has been cogently if metaphorically argued (Baer, 1974) by Willems (1965; 1973; 1973), who has provided more explicit indications of its meaning. He regards the central issues to be the study of the "complex interrelationships and interdependancies within organisms - behaviour - environment systems and the behavioural adaptive dependancies between organism and habitat" (1973, p.94). As he notes, these are challenging issues, because understanding them would require attention to a degree of complexity for which psychology is hardly prepared, or at least with which it is infrequently concerned. A science that does address these interdependancies is ecology, defined broadly as the interrelationship between organisms and their environment (Odum, 1975). Ecology is traditionally limited to the study of plants and animals, and reference to the human animal in the environment is typically reserved for laments at his capacity for destruction (Darling, 1969).

The distinctions between the behavioural and ecological models seem to be exclusively ones of degree. This is fitting, since it is precisely this attention to the scale and ramifications of given interventions into eco-systems that is the hallmark of behavioural ecology. Willems (1973) offers several examples, one of which concerned an ornithologist introducing a new bird into a zoo's collection. A very careful analysis of the necessary conditions for the bird's happiness was conducted, and the environment created. Soon after the introduction of a pair of birds, they were seen to be 'enjoying' their environment, by all the relevant behavioural criteria. This included the rearing of offspring. However, when the ornithologist came to check the birds after a couple of days he found the baby chicks
dead on the ground. This cycle repeated itself several times, and it seemed therefore that accidents were not the sole reason for the rearing failures. Despite modifications to the physical environment, there was no alteration in the parents' habit of pushing the chicks out of the nest to die. Finally, the ornithologist returned to naturalistic observations in an effort to understand these events. What he noted was that in the wild, parent birds were frantically busy gathering food and that the chicks spent the same time actively demanding food. Inanimate objects, such as leaves or egg shells, were ejected from the nest by the parents. On returning to review the zoo environment, he realised these 'natural' factors were absent. Since there was bountiful food the parents were able to satiate the chicks, which would then sleep during daylight hours. They were then apparently perceived by the parents as inanimate objects and ejected from the nest. Only when the ornithologist made food scarce did rearing proceed normally.

This tale illustrates several points in an ecological analysis. First, there was an ultimate reliance on naturalistic observation to fully understand the bird's behaviour. Second, the short and longer term effects of the creation of the bird's environment in the zoo were quite distinct. Third, this difference has very important implications for our evaluation of the environmental modification. Behavioural analysis has typically only concerned itself with the first of these three considerations. Here again, however, it has been to a lesser extent than in an ecological analysis, where "there is no substitute for being present where and when ... behaviour occurs, observing and describing in a sustained and systematic fashion" (Willems, 1972, p.115). Some of these distinctions between the two models and ethology are listed in Table 8-1 below. The more evident differences appear to be the ecologist's acceptance of descriptions as an acceptable goal of observation (taxonomy) and of the physical environment as often being as critical as the social one in determining and understanding behaviour. However, there appear to be widespread differences of emphasis, to the extent that quite considerable discrepancies might arise at the level of interpretation. In the context of a staff training intervention, for example, a behavioural analysis might have stopped with the assessments of attitudes, knowledge and skill following the course. These short-term evaluations
<table>
<thead>
<tr>
<th>EXPLAINING BEHAVIOUR</th>
<th>BEHAVIOURAL</th>
<th>ECOLOGICAL</th>
<th>ETHOLOGICAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isolation. Social. Environment. (Contingencies)</td>
<td>Integration; interaction; social and physical environment (settings, e.g. Ward Atmosphere Scale)</td>
<td>Evolutionary significance</td>
<td></td>
</tr>
<tr>
<td>DATA</td>
<td>Targeted behaviour of targeted individual. Frequency; intensity; duration. Imposed, preselected units.</td>
<td>Concentrations; flows; frequencies; episodes/events; setting topography; organisational structure; taxonomy of naturally occurring behaviours; norms; contingencies; expect &quot;side-effects&quot;. Molar units of observation, 'discovered', 'natural'.</td>
<td>Descriptions of naturally occurring events (Ethogram). Molecular units of observation (e.g. motor patterns)</td>
</tr>
<tr>
<td>RESEARCH DESIGNS</td>
<td>Specific behaviour within time-series design. Multiple measures of outcome</td>
<td>Wide range and number of measures, utilising time-series and group designs</td>
<td>Comparisons of species and settings: Cross-sectional</td>
</tr>
<tr>
<td>METHODS</td>
<td>Focused observation in the natural environment; questionnaires; (e.g. social validation)</td>
<td>Unobtrusive and wide-ranging observation in the natural environment; archival sources. Questionnaires. Systems Analysis.</td>
<td>Unobtrusive observations of different species and settings.</td>
</tr>
<tr>
<td>CONCEPTS</td>
<td>Theory-based (learning); conditioning techniques; individual functioning within 'field' of contingencies</td>
<td>Complexity; description; mapping; behaviour settings; homeostasis; base rates; atheoretical; individual and setting functioning. &quot;Fit&quot; Environment - centred</td>
<td>Behavioural consistencies and taxonomy; evolution; organism-centred physiology</td>
</tr>
<tr>
<td>PROPONENTS</td>
<td>Skinner; Pavlov; Wolpe, Lazarus; Davison; Rachlin; Ayllon; Rachman; Eysenck</td>
<td>Moos; Barker; Wright; Wicker; Willems; Mischel</td>
<td>Hutt and Hutt; Blurton-Jones; Tinbergen; Lorenz</td>
</tr>
</tbody>
</table>

Table 8-1 Some Distinctions between Broadly Behavioural, Ethological and Ecological Paradigms.
would have ignored the delayed but more important consequences of training, observable with longer-term 'naturalistic' and broader based assessments. Additionally, the behaviourist would have been atypical if he had proceeded to carry out a follow-up assessment involving non-targeted behaviours.

It is logical that, in a deterministic universe, there will always be unintended consequences ('side-effects') of interventions (Popper, 1963). Indeed, biological evidence supporting this conclusion are widely reported. For example, the use of DDT to control insects resulted in large concentrations of the poison accumulating in non-targeted organisms further up the food-chain, with the result that Ospreys and Eagles suffered reduced fertility and the threat of extinction (Kimball, 1969). Within psychology there are far fewer reported instances of 'side-effects' but they do exist. For example, Brelansd and Brelansd (1966) illustrated how animals trained by operant techniques ('The Behaviour of Organisms', Skinner, 1938) were 'misbehaving' in the longer term. They attributed this to an 'instinctual drift' to biologically more primitive behaviour. One instance was the pig they trained to put money in a piggybank. Although initially adept following operant training, there was a gradual resumption of rooting which resulted in a disruption and considerable delay in the completion of the task. In clinical psychology examples of attention to 'side-effects' include research with children and nurse training. For example, Patterson and Fleischman (1979) found that 'problem behaviours' such as 'cry' and 'destruct' dealt with by punishment resulted in further problem behaviour. Only when a series of successive contingencies were considered did their behaviour become predictable in terms of such notions as 'counter-attack'. Willems (1973) cites two examples, one involving the reduction of an adolescent's petty vandalism (stealing hubcaps) which was followed by an increase in the rates of more serious offences (stealing whole cars). His second example illustrates another complex interdependency: when a parent-administered token programme was effective in modifying behaviour one reported consequence was increased anxiety and obesity in the mother, who eventually abandoned the child. Wahler, et. al. (1970) also reported successfully treating stuttering by targeting 'secondary behaviours' (i.e. seemingly functionally unrelated) and confessed to being
'puzzled' over the relationship. In a pilot study of the 'costs and benefits' of behavioural psychotherapy, administered by nurses, Ginsberg and Marks (1977) drew attention to some of the more positive, 'intangible' benefits received by a group of forty-two adult neurotic patients. In addition to improvements in the 'primary' targets (fear, avoidance, hospital attendance), they also found these patients experiencing increased leisure activity, work enjoyment and attendance.

Whatever the shortcomings of these studies (e.g. Ginsberg and Marks omitted a control group), there were clearly some indications of 'side-effects', positive and negative, which appear to be attributable to the treatment intervention.

One would expect research addressing the more complex issues to have far greater difficulties with rigour than their counterparts. One obvious reason for this is simply the increased number of measurements taken. A second is the relative difficulty in going beyond frequency counts of targeted, circumscribed behaviours to multiple measures of outcome. However, it is recognised that these difficulties are worth tackling so as to move away from "simple questions" (Kazdin, 1979; p.649) and towards multiple outcome criteria (Burkhart et al., 1976; Patterson, et al., 1967). This direction would involve recognition of more meaningful and important questions ('socially valid'; Wolf, 1978) within systems.

The term 'system' refers to a view of phenomena, rather than to a particular form of analysis (e.g. Huse, 1975). Such an approach understands the world as composed of systems and subsystems that function as wholes and must be understood as wholes (Wahler et al., 1977). As with the Gestalt model, this 'systems' approach emphasises that parts never explain wholes, and that, equally, behaviour must be studied in its context to be understood (Barker, 1968). The favourite ecological term for a system is 'setting' or ecosystem, which refers to a small scale social system comprising people and inanimate objects. Within the bounds of the system the various components interact in an orderly, established fashion (Barker and Wright, 1954; Wicker, 1981). The importance of adopting this systems framework is that it allows us to address the larger questions of 'side-effects' within an ecological perspective having practical and scientific utility (Wicker, 1981).
Thus, the relationship between individual nurse-patient dyads can best be studied by ecological methods, viewed within the larger context of the ward and hospital environments.

In this vein, Bernstein (1982), reviewed nurse training in behavioural techniques and argued that several 'broader' questions ought to be raised before training became "ecologically valid" (p.2). Others have supported and elaborated this view in the wider behavioural literature (Wahler and Fox, 1981). Bernstein's (1982) framework consists of four levels of data, regarding the major questions:

1. What problems must behaviour change agents be able to solve?
2. What skills are most likely to lead to solutions?
3. What teaching techniques are most effective?, and
4. What procedures are most likely to promote generalisation? (p.3)

Our concern here is with the fourth question, the others having been addressed in an earlier chapter (3). Generalisation, that is, the maintenance of newly acquired behaviours in new settings and the development of skills not originally trained, is of paramount concern (Stokes and Baer, 1977). Without generalisation, staff training and behaviour therapy in general would be time and situation specific, and therefore of very limited value. Also of concern is the possibility that generalisation may go awry, with the development of inappropriate skills or applications, particularly where follow-up and monitoring procedures are absent (Stein, 1975; Berger, 1979). These are precisely the 'side-effects' predicted within an ecological analysis. An example has been reported by Watson, et al., (1972): following in-service training, nurses utilised more punishment to control their patients.

Despite the widespread recognition of the importance of generalisation it has rarely been assessed or programmed (Baer et al., 1968; Kazdin and Bootzin, 1972; Keeley et al., 1976). A review of ninety-four relevant studies appearing in the Journal of Applied Behaviour Analysis (JABA) revealed that only 30% directly measured generalisation and 56% failed in any way to address the issue (Warren, 1977). One explanation for this omission is to be found in early learning history; behaviour therapy grew up amidst allegations
of 'symptom substitution' made by the analytic school. Its reply was reference to a theory eschewing unobservables, and to empirical data indicating that generalisation was not a problem (Eysenck and Rachman, 1965; Wolpe, 1958). This under-estimation of the presence and scale of what was referred to as the 'generalisation decrement' was later recognised (Gruber, 1971) with consequent appeals for "sorely needed" research (Wehman et al., 1977, p.229).

Bernstein's (1982) question about generalisation procedures is inextricably bound to the issue of assessment: how do we evaluate generalisation? Generalisation encompasses changes across several dimensions, including time, space, behaviours and subjects (Drabman et al., 1979). To properly reply to the question of effective promotion of this phenomenon requires measurement at all these levels, something that has rarely been attempted. However, in nurse training Milne (1982) and Schinke (1979) have reported generalisation across settings, and several authors have assessed generalisation over-time (e.g. Milne, 1982; Carsrud et al., 1981; Paul and Lentz, 1977). But, in conclusion it must be said with Bernstein (1982) that there is little evidence deriving from systematic assessments of the broader issues of generalisation. It was therefore one of the major aims of the present research to try and assess generalisation effects extending across these dimensions. These are now discussed in turn, and summarised in Table 8-2 below, together with dependent variables.

2. MEASURING THE ECOLOGICAL EFFECTS OF NURSE TRAINING

Given the argument that there are always side-effects and the history from the biological sciences that these tend to be unpredictable with respect to latency and focus, it seemed expedient to assess a range of parameters following the passage of several months since course attendance. This emphasis on a broad evaluation minimises the likelihood of ignoring any ongoing 'side-effects'. So, for example, training consequences not evident within 'structured' situations such as the observation and monitoring of projects might still become apparent with 'unstructured' observations. These could consist of non-participant observations, where no explicit guidance or expectations were articulated. Equally, measurements could be
taken of more or less likely consequences of the training endeavour. Nurses' notes might not be expected to change, given the absence of any specific training in this skill. On the other hand, the transmission of the newly acquired skills to learners ('pyramid training') would seem to be more likely, given the qualified staff's responsibility in this regard. In this way, a series of measures were delineated.

a) Generalisation Across Time

Assessment of the maintenance of individual subject's learning was construed in terms of a repeat administration of three course tests, one for each of knowledge, skill and attitudes. The selection of only three measures was subsequently justified by the results of the first few courses and particularly by the discriminant analysis of these data. It was also expedient, since no extra allocation of subject's time was arranged and a brief assessment was therefore essential. A follow-up latency of one year was chosen, so as to reflect the emphasis on longer time scales of the ecological analysis. This latency is rare in behaviour therapy, although some journals differ (Journal of Behaviour Therapy and Experimental Psychiatry, Vol. 6, 1975). The reviewed literature shows that of the 33% of authors reporting follow-ups, only Paul and Lentz's (1977) interval exceeded six months. This finding is paralleled in the wider literature, for example Warren (1977) reported that 68% of his sample of studies (N = 94, from JABA) failed to report any follow-up data whatsoever. In keeping with this and the broader literature, one might expect the passage of one year to increase the probability of some changes, e.g. in nurses' attitudes.

<table>
<thead>
<tr>
<th>Type of Generalisation</th>
<th>Dependent Variables</th>
<th>Subjects</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Across Time ('Maintenance')</td>
<td>Follow-up assessment with measures of knowledge, skills and attitudes</td>
<td>Experimental and Control Groups</td>
</tr>
<tr>
<td>2. Across Settings ('Stimulus generalisation')</td>
<td>Written plan and naturalistic observations (SRRS)</td>
<td>-do-</td>
</tr>
<tr>
<td>3. Across Behaviours ('Response generalisation')</td>
<td>Naturalistic observations (ABCL); Case notes</td>
<td>-do-</td>
</tr>
<tr>
<td>4. Across Subjects</td>
<td>Knowledge and skill assessments of learner nurses; P.P.B.I.; Observations (BOI)</td>
<td>Learner Nurses; Patients</td>
</tr>
</tbody>
</table>

Table 8-2: The Four Types of Generalisation with Corresponding Forms of Measurement.
The reliability of these measures of skill, knowledge and attitudes was reported in the preceding three chapters (5, 6 and 7).

**b) Across Settings**

It was possible to assess stimulus generalisation by a combination of repeated and original measures, mostly the latter. The repetition lay in the selection of the written plan as a dependent variable. This closely approximates to the Functional Analysis (FA) and to the Formulation and Treatment Plan (FTP) which were administered immediately before and after the course. However, the bulk of measures were to be concerned with reflecting any changes that may be apparent in the nurses' ward behaviour. Two complementary strategies were adopted, namely 'structured' and 'unstructured' observations. Both were designed as non-participant methods, with the former revolving around the project and hence being to some extent influenced and shaped by the project outlines and the explicitly arranged observation of the nurses' skill in conducting the project. In contrast, the 'unstructured' observations were carried out with as little indication as possible being given to the subjects of what was being recorded. In practice three dimensions were assessed; nurses' activities, patients' activities and nurse-patient interactions. This follows Watson et al.'s (1972) argument for the simultaneous assessment of these dimensions and the fundamental need to provide these data if we are to understand the interface between the 'stream' of patient behaviours and the hospital system, represented by nurses (Willems, 1972). As a result, a unique and comprehensive account is generated that provides evidence on what has been described as the 'true' ecological unit, the emerging relationship between behaving organism and environment (Schontz, 1972).

The observational study of this relationship allows us to establish, for example, that 90% of patient's behaviour occurs in only 4% of a hospital's settings (Willems, 1972), that nurses provide differential attention for their patients' 'psychotic' behaviour (Gelfand et al., 1967), and that nurses spend the great majority of their time in administrative duties (Gardner and Giampa, 1971). These kinds of data clearly have enormous relevance to assessing generalisation. In this particular study they suggest that stimulus generalisation can...
be evaluated by an assessment of the proportion of time nurses allocate to behaviour therapy and other activities; by the quantity and quality of their interactions with patients; and by the effects these have on their patients. It is the second point that is apposite here, since we are concerned with the extension of skills from classroom to ward. The other two categories are discussed later in this chapter.

Throughout the core course emphasis was given, in theory and practise, to ways of interacting with patients. For example, the 'prompting' and 'consequence management' steps dealt with ways of developing and maintaining diverse behaviours. These were assessed during and following the course on a number of observational and paper and pencil measures. In order to assess this, an emphasis on an interactional measure would obviously be valuable. One of the earliest examples of measuring this was Gelfand et al.'s (1967) study of 'unprogrammed reinforcement' of patients. They made use of a decidedly behavioural perspective, breaking down their interaction categories into the consequences of 'reward', 'punishment' and 'ignored'; into the source of these consequences; and into the categories labelled as 'appropriate' or 'inappropriate' behaviour. Thus, for example, a patient might be talking in a bizarre or incoherent manner ('inappropriate') and the nurse might attend to this behaviour by going over and conversing with the patient ('reward'). This interaction would therefore be categorised as nurse rewards inappropriate behaviour by the patient. Over a large number of observations, a representative picture would emerge concerning the quantity and quality of interactions on the ward. From a methodological stand-point these data would be limited by any reactive effects of non-participant observation, and so it was essential to gauge the extent of this effect. Chapter 11 concerns an experimental determination of reactivity to this form of measurement.

The 'Social Reinforcement Rating Scale' (SRRS, Gelfand et al., 1967) was regarded as a suitable metric for the current research because it was sensitive, relevant and readily administered in conjunction with other observational measures. There was a need to bolster its precision by carefully defining the terms (e.g. 'appropriate') so a manual was constructed from the guidelines in the original paper. After piloting with several observers and studies of reliability largely as indications of these definitions, a final draft manual and record
sheet were prepared. They are in Appendix 10.

The dependability of the Social Reinforcement Rating Scale (SRRS) was established via inter-rater reliability. The results are presented in Table 8-3 below, together with the findings for the remaining two observational instruments.

<table>
<thead>
<tr>
<th>Observational Instrument</th>
<th>Author</th>
<th>Number of Raters in the Present Research</th>
<th>( \bar{x} ) Exact Agreement Between Raters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Reinforcement Rating Scale (SRRS)</td>
<td>Gelfand et al. (1967)</td>
<td>6</td>
<td>93% ((K_w = 0.67))</td>
</tr>
<tr>
<td>Attendant Behaviour Checklist (ABCL)</td>
<td>Gardner and Giampa (1971)</td>
<td>6</td>
<td>94% ((K_w = 0.89))</td>
</tr>
<tr>
<td>Behaviour Observation Instrument (BOI)</td>
<td>Alevizos et al. (1978)</td>
<td>6</td>
<td>84% ((K_w = 0.70))</td>
</tr>
<tr>
<td>Behaviour Therapy Proficiency Scale (BTPS)</td>
<td>Milne (1982)</td>
<td>2</td>
<td>77% ((K_w = 0.94))</td>
</tr>
</tbody>
</table>

Table 8-3: A Summary of the Inter-Rater Reliability of the Four Observational Instruments

c) Generalisation Across Behaviours

'Response generalisation' concerns the emergence of new, appropriate behaviours as a result of modifying targeted behaviours. In the present research this related to the development of nursing skills in behaviour therapy that were not specifically trained during the course. As is the case with most reported response generalisation, these new skills were similar to targeted skills. In the case of the projects, nurses could rehearse relevant skills in the classroom, most of which would straightforwardly apply in the ward. To the extent that this was the case, stimulus rather than response generalisation was involved. However, the projects and routine ward work sometimes required adaptations and adjustments, i.e. response generalisations. It was planned to measure these using an unstructured observation instrument concerned with time allocation and the nurses' clinical case notes. These were bolstered by the BTPS' data.

* Behaviour Therapy Proficiency Scale
The BTPS would provide a group measure of the range and extent to which nurses developed and applied new skills. It might transpire that only a very limited subset of excess and deficit patient problems were tackled, and/or that only a small subset of assessment and treatment techniques were used. This would indicate little or no response generalisation.

An unstructured observation that seemed appropriate in this context was one that provided a breakdown of the skills that nurses were using, together with the proportion of time for which they were used. A good example of such an instrument is the Attendant Behaviour Checklist (ABCL, Gardner and Giampa, 1971). It has the advantage of having been developed with long-stay, institutionalised patients, unlike the few alternatives that exist (e.g. Poole et al., 1981), and like the SRRS it was a brief but pertinent index of behaviours. The original ABCL consisted of eleven categories, such as administration and training residents. As with the SRRS, the recording protocol required the observer to time-sample these categories. For the purposes of the current research it was revised to distinguish 'patient-related' activities from others, before proceeding to define these in terms of the specific activities. A manual and record sheet were constructed from the original paper and as with the SRRS these were piloted with several observers and satisfactory inter-rater reliability data were obtained. These data are in Table 8-3, and the manual and record sheet are in Appendix 11.

The third and final measure of response generalisation was perhaps also the clearest 'ecological' assessment of this phenomenon. The nursing case notes represent a record of the patients' behaviour, activities, and treatment. As such they draw on skills covered in the course, such as the Functional Analysis, with its emphasis on clarity and objectivity of expression. Like the BTPS and ABCL, the case notes are an outstandingly valuable measure of response generalisation because they provide a focused and face valid indication of change. However, in addition to broadening this evaluation they are 'archival' or 'covert' data (Warren, 1977) and so are far less liable to reactive effects.

The measurement of the case notes was concerned with the proportion of references to patient behaviour and to the quality of these. 'Quality'
was defined in terms of the presence of 'objective' and 'subjective' accounts of behaviour, and adopted the criteria used in category one of the Functional Analysis Test (FA). These classed statements that were unclear, ambiguous, unintelligible, illogical or inferential as subjective or 'fuzzy' entries. So, for example, a nurse's note that a patient had 'no Christmas spirit' on a given day was classed as a 'subjective' entry. In contrast, if the nurse quoted what the patient had actually said this was treated as an 'objective' entry. Examples of these two classes of entry are provided in the experimental chapter (Chapter 12). Response generalisation could be said to have occurred if trained nurses employed significantly more objective terms and/or fewer subjective ones, since these were not a specific target of the course with respect to the case notes.

d) Generalisation Across Subjects

In this instance of the 'spread' of course effects, we are interested in the extent to which untrained subjects (i.e. those who have not attended the core course) manifest changes that are nonetheless attributable to the course. The most straightforward example of this is the effect trained nurses have on their patients and colleagues.

One of the most crucial evaluations of this form of generalisation is 'pyramid training', i.e. the extent to which trained nurses pass on skills to their colleagues. The related issues of manpower needs, the triadic model, and efficiency are all implicated in this evaluation. Following the approach adopted by Hall (1974) it is possible to carry this out by assessing the learner nurses routinely assigned to wards. Given that it is one of the major responsibilities of qualified staff to train these learners, one might expect some transmission of the core course content to occur, and to possibly be reflected in a difference between learners' attitudes, skill and knowledge at the beginning and end of their three month ward allocations. A finding of this kind would indicate whether or not the 'eco-system' was reflecting the course input, and it was therefore considered to be a worthwhile compliment to the existing measures. The attitude (ATQ), knowledge (KBPQ) and skill (FA) measures were used for this purpose.
The final two measures of subject generalisation were the Psychiatric Patient Behaviour Inventory (PPBI; Burdett and Ridel, 1981) as described in Chapter 3, and another unstructured observation instrument. The PPBI was used to indicate whether or not changes were occurring in the patients, as observed and recorded by the nurses. In addition to adding a far greater breadth to the range of patient behaviours assessed, this had the advantage of affording independent data on change.

The final observation necessary to complete Watson et al.'s (1972) triad was one focusing on what the patients were doing on the ward. For this purpose another instrument was selected from the literature, the Behaviour Observation Instrument (BOI, Alevizos et al., 1978). It had the same advantages of relevance and specificity accruing to the SRRS and ABCL, and in addition a detailed manual was available as was evidence of its sensitivity to change. The BOI lists a range of 'mutually exclusive' activities, such as 'walking' and 'sitting', together with 'concomitant behaviours' such as 'group recreation' and 'sleeping'. In total, there are twenty-six patient behaviour items covering a range adequate to reflect limited, focused effects of the intervention. As with the SRRS and ABCL, the BOI was found to have adequate inter-rater reliability (Table 8.3) when used by undergraduate and clinical psychologists. The obtained exact agreement of 84% compares favourably with the 85% reported by Alevizos et al. (1978). The manual and record sheet are in Appendix 12.
Several authors have argued for a broader, 'ecological' perspective within behavioural assessment, particularly Willems (1973, e.g.). The case for an ecological influence on nurse training research has been put by Bernstein (1982), and it was shown that her four levels of evaluation could be incorporated into the present research. In particular, this perspective resulted in the selection of generalisation measures, such as nurses' case notes, their 'pyramid' training of learner nurses, and a broadly-based system of naturalistic observations. The general characteristics of these measures were their bias towards gauging nurse training effects in a variety of initially non-targeted areas, and doing so via non-intrusive and observational methods. It was argued that such measures could provide data on social and ecological validity, thereby considerably strengthening the overall evaluative exercise and generating information, otherwise ignored, on the problems or 'side-effects' inevitably consequent upon an intervention into a system. It is often the competing variables in natural ecosystems that account for programme failures (Holman, 1977). One example cited above was the observational data indicating an increase in nurses' use of punishment following their training. In conclusion, this 'ecological' perspective appears to represent the kind of conceptual and methodological expansion urged by Wahler and Fox (1981). This is achieved by increasing the range of environmental events related to changes in socially important behaviours. In this way, the more complex and temporally distal relationships between events can be investigated. The design and procedures for the ecological analysis are presented in Chapter 12.
CHAPTER 9
EXPERIMENT ONE:

"A Structured Learning Format
Introduction to Behaviour Therapy
for Psychiatric Nurses"
ABSTRACT

An introductory course in behaviour therapy was designed around the structured learning format (SLF). In teaching traditional behavioural topics such as recording, shaping and rewarding the SLF was expected to produce evidence that qualified psychiatric nurses (N = 41) could demonstrate significant improvements as compared to a control group (N = 18). This evidence was duly obtained from one knowledge and three skill assessments. There was no concurrent attitude change for either group over the five day period of the course.

Evaluations of the teaching methods indicated that the experimental group preferred the traditional symbolic approaches, but that the overall course 'package' was well received. This was supported by interview data, obtained independently and anonymously. The major criticisms deriving from these forms of feedback and other less formal comments, allied to a low single-case project implementation rate, led to the consideration of course modifications. These are elaborated in the next chapter.

A one year follow-up assessment of knowledge, skill and attitudes indicated that the experimental group had maintained post-training levels of improvement. There was no significant change in the scores obtained by the control group. These findings suggested that the SLF course had produced lasting training effects on these three measures.
1. INTRODUCTION

It was argued in earlier chapters (3 and 4) that the literature on training in therapeutic skills and knowledge strongly indicated the utility of a practise-based format.

Few researchers have used this format with psychiatric nurses, preferring instead traditional 'chalk and talk' methods. Those who have reported 'enactive' or 'learning-by-discovery' formats have been involved in the field of mental handicap (e.g. Milne, 1982; Bailey and Craze, 1980 and Schinke and Wong, 1978). Furthermore, they have tended to adopt rather weak experimental designs, as demonstrated in Chapter 4, and have failed to specify the content and/or teaching methods.

The major aim of this first experiment was therefore to evaluate the utility of the structured learning format within psychiatric nursing. An additional aim was to detail the course content and procedure in a way that facilitated replication. To this end a manual was prepared that provided interested clinicians with the necessary guidelines to run the course. Based on the review of nurse training literature (Chapter 4), the hypotheses were:

a) that the improvement scores obtained on knowledge and skill tests by the experimental group will be greater than the control group improvement scores;

b) that the experimental group would evidence generalisation of their learning by conducting single-case study 'projects'; and

c) that these projects would prove to be clinically successful.
2. METHOD

a) Design: A non-equivalent control group design was utilised (Campbell and Stanley, 1963, p. 47). This non-equivalence derived from the fact that control group subjects were not initially considered for the experimental group as they were based at two other psychiatric hospitals in the Region. Some of these nurses were offered and subsequently attended a course after the one-year follow-up period had elapsed. Within the group design a time-series, repeated measures strategy was adopted. In this design each subject was assessed on all measures immediately prior to and following the course, and again at one-year follow-up.

b) Subjects: All experimental group subjects \((N = 41)\) were drawn from a large National Health Service psychiatric hospital, Carlton Hayes in Leicester. They consisted of all nursing staff working within the eight rehabilitation wards of this hospital. Nurses were assigned to the course by their nursing officers, one or two from each ward each time a course was run. The nurses and their officers were blind to the hypotheses and the precise nature of the independent variable.

It was the practice of the hospital to employ only qualified \((R.M.N., S.E.N.)\) staff, and so experimental subjects were all qualified psychiatric nurses. This was taken into account in matching them with the control group \((N = 18)\), and Table 9-1 shows how the groups compared on this and other demographic variables. The control group subjects volunteered to serve in this capacity.

Statistical analysis of these variables, utilising the Mann-Whitney U Test (Siegel, 1956), indicated no significant differences between experimental and control groups. They were therefore viewed as matched on the demographic characteristics. It also transpired that they were equivalent on the pre-test assessment.
### Demographic Variables

<table>
<thead>
<tr>
<th>GROUP</th>
<th>AGE (YRS)</th>
<th>SEX</th>
<th>GRADE (A)</th>
<th>NURSING QUALIFICATIONS (B)</th>
<th>OTHER (ACADEMIC) QUALIFICATIONS (C)</th>
<th>DURATION AS NURSE (YRS.)</th>
<th>KNOWLEDGE AND EXPERIENCE (D)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXPERIMENTAL</td>
<td>36.5</td>
<td>8.5</td>
<td>4.9</td>
<td>2.5</td>
<td>1.1</td>
<td>11.1</td>
<td>6.7</td>
</tr>
<tr>
<td>(N = 41)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONTROL</td>
<td>35.1</td>
<td>9.9</td>
<td>5.4</td>
<td>3.2</td>
<td>0.6</td>
<td>12.6</td>
<td>8.3</td>
</tr>
<tr>
<td>(N = 18)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 9-1: Means and Standard Deviations for Experimental and Control Group Subjects' Demographic Variables.

- A = Staff Nurse
- B = S.E.N.
- C = 1 = 1-5 O' levels
- D = 1 = Some reading or lectures
- E = S.E.N.-M.
- F = R.M.N.
- G = 1 = 1 + some experience
- H = 2 = 6 + 'O' or 1 'A' level
- I = 5 = 6 + 'O' or 1 'A' level
- J = 6 = C.N./Sister
- K = 7 = M.Sc. (Nursing)
- L = 8 = M.Sc. (Medical Science)
- M = 9 = M.D. (Medicine)
c) Measures: Subjects' learning of behavioural skills, knowledge and attitudes were assessed on six measures administered before and after the course. Following the course there were ratings of their project plan and skill in implementing it. Finally, they were re-assessed after a one year interval with three of the initial measures, one assessing knowledge, one skill and one attitudes. The skill measures were the Functional Analysis Test (F.A.), the Simulated Proficiency Test (S.P.T.) and the Formulation and Treatment Plan Test (F.T.P.). All three were developed and evaluated by the author, and have been discussed in Chapter 7. The knowledge test utilised was the Knowledge of Behavioural Principles Questionnaire (K.B.P.Q.), (O'Dell et. al., 1979), discussed in Chapter 6. Finally, attitudes were assessed using Caine and Smail's (1968) Attitude to Treatment Questionnaire (A.T.Q.), and the Conservatism Scale (C - Scale; Wilson and Patterson, 1968). Chapter 5 contained detailed discussions of these measures. The final course assessment was a 5-point Likert rating of the different teaching methods used, in terms of their perceived academic and practical usefulness. After the course nurses were given a structured interview. Both items are in the appendix (17) manual. Also, following the course nurses' written behavioural programmes and their skill in implementing these 'projects' were assessed using scales prepared by the author, as elaborated in Chapter 7.

Reliability and validity considerations and data for all measures were reported in the relevant chapters above.

d) Apparatus and Materials: The 'core course' consisted of 16 topics, or 'steps'. Each step utilised a slide presenting a definition of the technique being discussed, programmed learning handouts, practical exercises and educational role-play materials. Visual aids included the use of a blackboard and video equipment (Sony U-matic with 20" colour monitor) in addition to the slides.

The 16 topics covered the broad areas of behavioural assessment, learning and behaviour therapy. Table 9-2 below
lists these topics.

<table>
<thead>
<tr>
<th>Step No.</th>
<th>Topic</th>
<th>Readability Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Defining Behaviour</td>
<td>66</td>
</tr>
<tr>
<td>2.</td>
<td>Recording Behaviour</td>
<td>61</td>
</tr>
<tr>
<td>3.</td>
<td>Baseline Records and Graphing</td>
<td>60</td>
</tr>
<tr>
<td>4.</td>
<td>Observational Techniques</td>
<td>73</td>
</tr>
<tr>
<td>5.</td>
<td>Behaviour Therapy</td>
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</tr>
<tr>
<td>6.</td>
<td>Learning Modalities</td>
<td>70</td>
</tr>
<tr>
<td>7.</td>
<td>Classical Conditioning</td>
<td>60</td>
</tr>
<tr>
<td>8.</td>
<td>Operant Conditioning</td>
<td>60</td>
</tr>
<tr>
<td>9.</td>
<td>Applications of Learning Principles</td>
<td>60</td>
</tr>
<tr>
<td>10.</td>
<td>Use of Contingencies</td>
<td>69</td>
</tr>
<tr>
<td>11.</td>
<td>Shaping, Prompting and Fading</td>
<td>75</td>
</tr>
<tr>
<td>12.</td>
<td>Chaining</td>
<td>93</td>
</tr>
<tr>
<td>13.</td>
<td>Modelling</td>
<td>85</td>
</tr>
<tr>
<td>14.</td>
<td>Extinction and Time-Out</td>
<td>57</td>
</tr>
<tr>
<td>15.</td>
<td>Maintenance and Generalisation</td>
<td>48</td>
</tr>
<tr>
<td>16.</td>
<td>Planning Programmes</td>
<td>74</td>
</tr>
</tbody>
</table>

Table 9-2: A List of the Topics Covered in the Core Course Together with Their Readability Score.

Content validity was assured by including those topics most frequently listed for other courses in behaviour therapy (Hall, 1973), and by reference to widely used texts (e.g. Kazdin, 1975; Butler and Rosenthal, 1978; Rachlin, 1970), and more fundamentally by gearing the topics to the course objectives and to the needs of the nurses.
Definitions used in slides, as in the case of all materials, were derived from the behavioural literature.

The programmed learning handouts were prepared by the author, with some assistance from a senior colleague. Each step was analysed for its readability using the Fleisch formula (1948). The individual results are presented in Table 9-2 above. The mean score was 63. This falls mid-point on the readability scale, that is into the 'standard, digest' category and midway between 'very difficult, scientific' (score range 0-30) and the 'very easy, comics' categories (score range 90-100). In order to provide a more current validation of the comic range of scores, a copy of "The Dandy" was analysed (No. 2024, 6.9.80) and the mean score obtained was 82. This suggests that comics have become less readable over the years. It also indicates that some of the course handouts (12, 13) were as readable as a comic. All handouts were between one and two pages in length, and some contained diagrams or illustrations such as record sheets. The handouts are included in the appended manual.

Practical and role-play materials were also developed by the author. They consisted of typed instructions set out on small cards. Additional materials included drinking straws and noise producing instruments, such as bicycle horns and triangles, (for the classical conditioning step) record sheets, data for graphing and video films for practice in recording techniques. These items are detailed in the manual.

The course took place in one of the Area's Nurse Teaching Units, based in the grounds of the hospital. It consisted of one large lecture room (18' x 45') and four subsidiary rooms, all 15' x 15 ± 3'. The subsidiary rooms were used for practical and role-play phases; the lecture room was used for all group phases of teaching.

Procedure: The manual contained details of the progressive steps in covering the course content. Two forms of guidance were provided to the course trainer, namely notes and practicals. The notes enumerated the points to be covered in the introductory lecture; and the practical detailed the tasks, procedures, aims
and materials for each step in the course. In addition to these two components, the manual contained all the other materials and instructions necessary to run the course. These included the programmed learning scripts, the measures, and the introductory handouts. The manual is Appendix 17.

The order in which each of the teaching methods were used is illustrated in Table 9-3 below:

<table>
<thead>
<tr>
<th>Order</th>
<th>Method</th>
<th>Approximate Proportion of Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Lecture</td>
<td>10%</td>
</tr>
<tr>
<td>2</td>
<td>Questions, Discussion</td>
<td>10%</td>
</tr>
<tr>
<td>3</td>
<td>Programmed Learning</td>
<td>10%</td>
</tr>
<tr>
<td>4</td>
<td>Demonstration or Modelling</td>
<td>20%</td>
</tr>
<tr>
<td>5</td>
<td>Practical</td>
<td>40%</td>
</tr>
<tr>
<td>6</td>
<td>Feedback and Discussion</td>
<td>10%</td>
</tr>
</tbody>
</table>

Table 9-3: A Breakdown of the Teaching Methods Used in Each Step.

Table 9-3 represents a typical breakdown of methods used and relative time allocated. However, some steps were covered without any practical component (e.g. Step 1) and in others the lecture was more prominent (e.g. Step 8). The mean duration of each step was 90 minutes. Thus, the course consisted of 16 steps listed in Table 9-2, each one being covered as far as practicable following the format outlined in Table 9-3 above.

Immediately prior to, and following, these steps were the baseline and post-test assessments. The order of these, together with the maximum time allowance, is given in Table 9-4 below.
The 'demographic data sheet' was completed prior to the baseline assessment, and an introductory outline of the course and behaviour therapy was given before Step 1. At the end of the course, following the post-test assessment, the subjects completed a rating of the teaching methods. Within two months of completing the course they were interviewed anonymously and independently of the author. The project was undertaken at various intervals after the course, ranging from days to months. The procedural components therefore occurred in the following order:

1. Demographic Data Sheet.
2. Six measures (Table 9-4).
3. Introductory outline.
4. Sixteen course steps (Table 9-3).
5. Repeat assessment with six measures.
6. Rating of teaching methods.

After End of Course:

7. Interview

8. Project  
   a. Written plan  
   b. Proficiency

9. Follow-up

The procedure for the interviews was that a list of subjects' names and wards was given by the author to a third party, who arranged to see the subjects individually within two months of the course. The 'third party' was not a member of the Psychology Department. The majority of interviews were conducted by Psychiatrists, with some being carried out by nurses such as the Occupational Health Sister. Once the interview was arranged the content was regulated by the pre-determined list of questions. Completed interview forms were returned to the author anonymously, a point that was stressed prior to the interviews to maximise frankness. Table 9-6 lists the interview questions.

The procedure with projects was for subjects to prepare a written account of their intended behavioural programme once they had completed the course. This formed the basis of the ward-based phase of the course, and provided the context for ongoing supervision of their new knowledge and skills by the author and his senior colleague. Once the written plan was sent to one of these two psychologists, then the plan was scored then discussed with the individual subject, and any necessary alterations made. The plan was then implemented by the subjects, and, following the baseline phase, one of the two psychologists arranged to observe the subjects' skill in using the given behavioural technique/s. During this observation the psychologist rated the nurses' skill using the 'Behaviour Therapy Proficiency Scale' (BTPS, Milne, 1982). One such observation was made of each subject who conducted a project. The completion of this rating represented the end of the course, and subjects who successfully completed the course were awarded specially prepared certificates (Appendix 13). However, supervision was continued as necessary and follow-up reports and/or data were sought two to three months after the commencement of the project. The written plan sheet and scoring manual are in Appendix 5. The BTPS manual and record sheet are in Appendix 4.
As regards the subjects, nurses were assigned to the course in groups of between five and ten per course. The course ran for five consecutive days between 9 a.m. and 4 p.m., with two breaks for tea and one for lunch during this seven hour period. Seven successive courses were held during the period December, 1980 to May, 1982, with a total of forty-one nurses attending.

The control group were constituted during the same period, but were drawn from two other psychiatric hospitals within the Region. The procedure for them mirrored as precisely as possible that outlined for baseline (pre-test) and post-test experimental group assessments. However, they did not receive the core course but were simply re-assessed at the end of the five day and one year periods. The author conducted the assessment of eight of the control group, a further ten subjects being assessed by a psychologist working in the psychiatric rehabilitation sector of another hospital.

The one year follow-up assessment involved locating subjects and requesting their co-operation. Twenty-one of the experimental group and eight of the control group were available. Their re-assessment began with the completion of a 'follow-up questionnaire' that included a description and rating of their current use of behaviour therapy. This was followed by a repeat administration of three course measures, the Attitude to Treatment Questionnaire (ATQ), the Knowledge of Behavioural Principles Questionnaire (KBPQ) and the Functional Analysis Test (FA). The administration of these tests followed the protocols outlined earlier in Table 9-3.

3. RESULTS

The findings from the six course tests are presented in figure 9-1 below. It will be seen that experimental and control group subjects' scores are depicted on the same histogram, in terms of the baseline, post-test and follow-up phases of assessment. In order to facilitate comparisons, all results were converted to and plotted as the mean percentage score. The means and standard deviations for all measures are in Appendix 14.
Fig. 9-1: Experimental and control group scores on six course measures at baseline, post-test and follow-up assessments.

'C' = Conservatism Scale
S.P.T. = Simulated Proficiency Test
K.B.P.Q. = Knowledge of Behavioural Principles Questionnaire
A.T.Q. = 'Attitude to Treatment' Questionnaire
F.A. = Functional Analysis
F.T.P. = Formulation and Treatment Plan
None of these data were derived from the author's scoring of the measures. All tests were scored by volunteers (psychology students) who were blind to the phase being assessed.

Statistical analyses of these data were conducted utilising the non-parametric Wilcoxon Matched Pairs, Ranked Orders (within group) and Mann-Whitney U-Test (between group) statistics (Siegel, 1956). No significant between assessment differences were obtained in the case of the control group subjects. Comparisons of the experimental groups baseline and post-test were as follows: Conservatism Scale did not indicate any significant pre/post alteration. The Simulated Proficiency Test did show a significant \( p \leq 0.01 \) improvement in the selection of a behaviourally appropriate course of action. The third test, the Knowledge of Behavioural Principles Questionnaire, also indicated a very significant improvement \( p \leq 0.01 \). On the second attitudinal measure, the Attitude to Treatment Questionnaire, there was no significant difference. Very marked improvements were also found on the Functional Analysis Test \( p \leq 0.01 \). However, the final course measure, the Formulation and Treatment Plan, does not indicate any significant change between baseline and treatment assessments.

The between group analyses indicated that there were no statistically significant differences between the two groups at the time of the baseline assessment. By the post-test there were significant differences \( p \leq 0.05 \) between experimental and control groups on the one knowledge and three skill measures (SPT; FA; FTP). This indicates a learning effect deriving from the course training in behaviour therapy.

However, by the time of the one year follow-up, the results on the knowledge (KBPQ) and skill (FA) measures were not significantly different from the baseline scores. The graph (Figure 9.1) illustrates that this does not quite represent a complete reversion to baseline, and the presence of a partial maintenance effect is also supported by the statistical analyses of post-test versus follow-up data. This showed no significant changes in scores on any of the three tests. In contrast, the attitude measure used at follow-up, the ATQ, indicated that the nurses were expressing a significantly
Analyses of the demographic data presented in Table 9-1 indicated no significant differences (Mann-Whitney U Test) between the groups on any of the variables. They were therefore considered to be matched groups on these parameters. The results of the analyses are presented in Appendix 15. The demographic record sheet is in Appendix 16.

The ratings given to the different teaching methods are given in Table 9-5 below. It can be seen that nurses preferred symbolic methods such as the programmed handouts, discussions and video instruction to enactive methods such as role-plays and practicals. Also, little distinction is made between the 'usefulness' and the 'informativeness' of methods in making these ratings.

<table>
<thead>
<tr>
<th>Teaching Method</th>
<th>Useful, of Practical Value</th>
<th>Informative, of Theoretical Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Experiment 1</td>
<td></td>
</tr>
<tr>
<td>1. Lecture</td>
<td>72</td>
<td>84</td>
</tr>
<tr>
<td>2. Question and answer</td>
<td>82</td>
<td>85</td>
</tr>
<tr>
<td>3. Discussion</td>
<td>82</td>
<td>85</td>
</tr>
<tr>
<td>4. Role-play</td>
<td>58</td>
<td>65</td>
</tr>
<tr>
<td>5. Practising ('Learning by Discovery')</td>
<td>70</td>
<td>65</td>
</tr>
<tr>
<td>6. Written exercises</td>
<td>62</td>
<td>57</td>
</tr>
<tr>
<td>7. Programmed handouts</td>
<td>89</td>
<td>80</td>
</tr>
<tr>
<td>8. Video model</td>
<td>81</td>
<td>85</td>
</tr>
<tr>
<td>9. Video feedback</td>
<td>78</td>
<td>85</td>
</tr>
<tr>
<td>10. Overall course</td>
<td>75</td>
<td>90</td>
</tr>
</tbody>
</table>

Table 9-5: The percent of subjects from the core course rating the methods as being "to a large extent" helpful and "very helpful" (5/5). Seventy-six percent of the subjects replied.
Interview results are presented in Table 9-6. It can be seen from these results that the twenty-four nurses interviewed (65%) felt favourably towards the course (items 1, 2, 3 and 4) and that they viewed it as offering assistance to their clinical skills (item 3.c.). However, a large percentage made criticisms of the course content and teaching methods. Both criticisms were related to the relevance of some steps and methods to their work and learning (e.g. role-play, Table 9-5). Few felt that the course had improved their attitudes, perhaps reflecting the majority view that behaviour therapy was a useful approach.

<table>
<thead>
<tr>
<th>INTERVIEW ITEM NO.</th>
<th>QUESTION</th>
<th>EXPERIMENT 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Did you want to attend?</td>
<td>87%</td>
</tr>
<tr>
<td>2</td>
<td>Are you glad you did?</td>
<td>87%</td>
</tr>
<tr>
<td>3a</td>
<td>Did the course: - Make work more interesting?</td>
<td>66%</td>
</tr>
<tr>
<td>3b</td>
<td>Lead to your feeling more competent?</td>
<td>50%</td>
</tr>
<tr>
<td>3c</td>
<td>Lead to your improved work skills?</td>
<td>70%</td>
</tr>
<tr>
<td>3d</td>
<td>Increased your chances of job advancement?</td>
<td>25%</td>
</tr>
<tr>
<td>3e</td>
<td>Improved your understanding of patients?</td>
<td>62%</td>
</tr>
<tr>
<td>4</td>
<td>Were there any ways in which you think the course was unhelpful?</td>
<td>25%</td>
</tr>
<tr>
<td>5</td>
<td>In what ways do you think the course could be improved?</td>
<td></td>
</tr>
<tr>
<td>5a</td>
<td>- content?</td>
<td>45%</td>
</tr>
<tr>
<td>5b</td>
<td>- teaching methods?</td>
<td>41%</td>
</tr>
<tr>
<td>5c</td>
<td>- shorter</td>
<td>9%</td>
</tr>
<tr>
<td>5d</td>
<td>- longer</td>
<td>37%</td>
</tr>
<tr>
<td>6</td>
<td>Do you think the course improved your attitudes?</td>
<td>29%</td>
</tr>
<tr>
<td>7</td>
<td>In terms of helping your patients, how important do you think behaviour therapy is?</td>
<td>54% 'very useful'&lt;br&gt;41% 'quite useful'&lt;br&gt;4% 'best available treatment'&lt;br&gt;0% 'unimportant'</td>
</tr>
</tbody>
</table>
Finally, the topics and results of the projects are presented in Table 9-7 below. Percentages of maximum score are given for plans and proficiency, with a rating of clinical effect for both groups.

<table>
<thead>
<tr>
<th>Group</th>
<th>Problem Category</th>
<th>Examples</th>
<th>Mean Score for Plan</th>
<th>Mean Score for Proficiency</th>
<th>Mean Clinical Outcome Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>'Excess'</td>
<td>Head-banging; yelling; wandering; food stealing and cigarette cadging.</td>
<td>83%</td>
<td>86%</td>
<td>'Large Improvement' (i.e. 41-79% alteration of the target response in the desired direction)</td>
<td></td>
</tr>
<tr>
<td>'Deficit'</td>
<td>Urinary incontinence; shaving; making cup of tea; table manners; and speech difficulties</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experimental (N = 11)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Both 'Excess' and 'Deficit'</td>
<td>Washing; dressing; shaving; aggression; 'lethargy'; speaking; shopping.</td>
<td>20%</td>
<td>18%</td>
<td>'Small Improvement' (20% or less improvement)</td>
<td></td>
</tr>
<tr>
<td>Control (N = 9)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 9-7

It can be seen that all experimental group subjects are very competent at writing and conducting care plans, and that these plans are clinically effective. In contrast, the control group were significantly (p ≤ 0.05) less able in terms of both planning and implementing, (Mann-Whitney U-Test). The rating of clinical outcome is an estimate made by the control group nurses and the author following discussion. In the case of the experimental group there was usually an empirical basis for the rating, such as time-series records of change. However, only eleven (26%) of the experimental group conducted projects. Thus, although those that were completed were of a high standard, only a minority of subjects carried them out. This outcome has important implications for the overall intervention.
4. DISCUSSION

It is clear from the results that nurses attending the core course demonstrate knowledge and skills in behaviour therapy to a degree and with a consistency that is statistically and clinically superior to both the control group and to their own baseline scores. Also, they maintain these improvements at one year follow-up, and add a significant change to a more behavioural attitude. These findings have very important ramifications. The major ones are that:

a) they provide support for the hypothesis that a brief yet systematic programme of training in a new range of therapeutic techniques can be effective;

b) the triadic model, as utilised in this research, is a viable approach; and that

c) baseline levels of behavioural knowledge and skills are strikingly low.

That the core course should return such good results in such a brief period is somewhat surprising when contrasted with the reviewed literature. The mean duration of these courses was almost four weeks (Chapter 4, Table 4-5c), and even then some authors reported no significant knowledge change (e.g. Bailey and Craze, 1980) or only moderate success in terms of skills (Bettison and Carlington, 1975). However, the present results are comparable with the findings reported by most authors, except that they are achieved in approximately one quarter of the time.

The present findings are also very similar to the literature with respect to reports on ward-based use of behavioural techniques. For example, Martin (1972) found that a brief, twenty-five hour training course resulted in only 33% of his group of thirty-two nurses conducting small projects. In addition, he emphasised that a necessary condition for these projects to occur was a ward with ongoing behavioural programmes. Similarly, Watson et. al. (1971)
utilised itinerant teams of nurses so that the ward cohort of staff could be trained and return to find their ward with an ongoing series of programmes. These elements of peer support and a therapeutically congruent ward practice are potent allies of stimulus generalisation and maintenance.

As was discussed in Chapter 2, it is all too often the case that these 'buttresses' are not only absent but are replaced by constraints. Repucci and Sanders (1974) have described these within the context of the psychiatric hospital. Particularly relevant to the present research were their categories of 'institutional' and 'individual' constraints. In the case of the former there were low staff:patient ratios, the absence of a peer support system supporting the innovation, and the related consequence of few or no ongoing behavioural programmes.

Individual constraints included a fundamental opposition to innovation. This was particularly so when this was introduced by non-nurses, who furthermore had undertaken only a minimum of consultation over decisions that had considerable import for nurses. The main example was the re-allocation of patients. The poor return of projects indicated that constraints were present, and that these were not intrinsic to the course or to techniques for procuring change in patients. This is indicated by the quality of the projects undertaken.

Evidence regarding the constraints was obtained from a number of sources:— in the classroom there was a highly predictable 'chorus-line' complaining of the low staff levels, the chronicity of the patients, and the nurses' long history of unsuccessfully trying behavioural and other techniques with the patients. These points were repeated at every opportunity, e.g. ward meetings and informal conversations. Equally, they were discussed in all these settings, and it was argued that the pin-pointing of problems, the adoption of limited and realistic goals for staff and patients (e.g. maximising the few opportunities for patient-training that occur routinely), and the value of a more systematic scheme, made the innovation worth trying.

Evidence was also obtained by conducting confidential interviews with twelve randomly selected nurses. The results of these interviews with the author strongly supported the constraints mentioned above, particularly so the peer group perspective on a nurse conducting a project as being a 'turncoat' or rebel. Also emphasised by these interviewees was the
discrepancy between the beliefs about the role of and commitment of the nurse perpetuated by the academic literature and the media on the one hand, and their own perspective on the other. For example, one nurse made the point that improvements in the patient's condition was not the over-riding objective and in fact such changes were often a nuisance to the nurse. Instances include the extra demands such a patient might make on the staff and equally that improved patients would no longer be available for routine chores on the ward if they had obtained 'work' off the ward. Another point made was their uncertainty about some patients staying on their ward for the duration of a project. These examples illustrate the complexity of intervent
effects, and with it the relevance of an ecological perspective.
One consequence of this perspective is firstly a willingness of the researcher to look for these aspects of change, and secondly to suggest ways of altering the intervention. Thus, although the core course results were very satisfactory by the time of post-testing, they were not so by the project and service criteria. Given the importance of projects it was necessary to reconsider the course forms so as to facilitate their completion. This therefore, became Experia Two, the next chapter.

Turning now to the matter of baseline results, these provide compelling evidence that refutes one line of the nurses' chorus: whatever it is that they have been doing all these years, it bears little resemblance to behaviour therapy as measured and understood in the literature and by the author. On the one hand it is not surprising that nurses should make this erroneous self-attribution. Behavioural techniques are, after all, 'common': in some form or another we have all experienced and used them (Skinner, 1953). However, their formal usage clearly differs from this common form. It could be argued that the tests are invalid, but as Chapters 6 and 7 showed, there was adequate evidence from the criterion validation provided by the control group projects (see above), from the convergent validation of the measures arising from the results obtained by qualified clinical psychologists (see Chapters 6 and 7), and finally from the observed improvement between baseline and post-test assessments for the group themselves. The argument is therefore regarded as refuted. The implications of the baseline
results are numerous. To pick out two, they reflect ethical and training issues. The ethical concern is that senior, qualified and ward-managing nurses are, according to self-report and observational data, conducting quasi-behavioural programmes on a routine basis with their patients. In the absence of the present research there would have been no effective monitoring of these activities nor any effective resource for these nurses to utilise had they, for any reason, recognised the need for help. It is for these reasons that the recommendations concerning a psychologist being consulted whenever a behavioural programme is instituted are so critical (Zangwill, 1980).

The second concern is related: given that these nurses have received a formal training, and have had up to twenty years of psychiatric nursing experience, what skills and knowledge have developed in lieu of the behavioural ones? Or have they, in fact, received training in behavioural techniques, but this has proved inadequate? It is stressed in the nursing literature that 'observation', for example, is one of four key nursing skills (e.g. Trick and Obcaraskas, 1968). Yet, the present evidence shows that they cannot observe in the objective sense of selecting, defining, and counting problematic behaviour. The data to be presented in Chapter 12 also show that learners, i.e. those currently undergoing training, are quite helpless when confronted by the observational task set by the functional analysis. This does not seem to be simply a peculiarity of that test, as the experimental group of nurses always demonstrated difficulty in learning to carry out observations during the course, and qualified clinical psychologists were able to master it (see Chapter 7). Further support for this argument will be presented in Chapter 12, under the topic of the nurses' notes. It was found that descriptive (i.e. objective) accounts of their patients' behaviour were significantly less frequent than subjective, inferential and 'fuzzy' entries during the baseline (pre-course) phase.

In conclusion, there are ethical and competence reasons for organising in-service training courses in behaviour therapy. The first version of the core course provided evidence that such a course, if systematically arranged so as to optimise learning, could result in substantial improvements in the nurses' skill and knowledge and overcome these objections. Furthermore, the nurses themselves
recognised retrospectively the value of the course, as evidenced by the positive interview feedback. This is an important form of 'social validation' (Forehand, 1980; Wolf, 1978) for the course, providing as it does support for the goals and methods of the course.
SUMMARY

It was hypothesised that a course in behaviour therapy for qualified nurses, utilising a structured learning format, would produce significantly greater scores on measures of skill and knowledge over those obtained by a control group. The results provided comprehensive support for this hypothesis, but it was noted that the implementation phase of the course, the projects, was unsuccessful. A number of reasons were offered for this important finding, and these generated suggestions for altering the course so as to maximise the occurrence of projects in the future. These formed a new set of hypotheses for the second experiment reported in Chapter 10.
CHAPTER 10

EXPERIMENT TWO

"A Project-Based Introduction to Behaviour Therapy"
ABSTRACT

As a solution to the low rates of project implementation reported in the previous chapter, a revised core course format was evaluated. This altered the emphasis from classroom to ward-based learning for the 'enactive' phase of the structured learning format, but in all other respects was similar to the first experiment. Twenty-four nurses were trained by this revised, 'project-based' method. The results showed that they had significantly improved their knowledge and skill scores by the course completion as compared with baseline. Also, there were no significant differences between the two experimental group scores at post-testing, and only one difference at baseline, when the first group obtained a significantly higher score on a skill assessment scale (the FA). There was also one difference between the second experimental group and the original control group at baseline, again with the new group scoring significantly lower on the FA. The new group were therefore indicating significant improvements in their skill and knowledge by post-testing at a level comparable to the first group, but from a baseline that was not as favourable on one of the skill measures.

More importantly, however, the second experimental group carried out significantly more projects and with comparable success to the first group of nurses. This outcome provided support for the main predicted effect deriving from the revised course, and was further supported by the nurses themselves, whose interview and course evaluation data indicated a clear preference for the project based course.
2. INTRODUCTION

In the previous chapter it was concluded that while results during the classroom training period were very satisfactory, there had been little implementation of the behavioural techniques in the form of single-case study projects with patients. As a possible solution to this problem, and very much following the feedback from nurses in interview and informally, a revised course of training was developed. This fundamentally consisted of a shift from classroom to ward-based learning during the 'enactive' phase of the structured learning format (SLF). As far as possible, these replaced the role-plays and other exercises used in the first experiment. Additionally, there were reductions in the course syllabus to allow nurses the extra time necessary for ward exercises, and a focus on projects from the first 'step' onwards. Thus, the projects became pivotal and all training revolved around them.

In Chapter 3 it was argued that learning is enhanced by enactive procedures, since the acquisition of skills is optimised by involving the learner in decisions and choices about what he or she is actually doing (Welford, 1958). However, enactive methods make extra demands on trainers, for example in requiring additional preparation, supervision and evaluation. For these and other reasons basic nurse training still favours the traditional 'chalk and talk' method of instruction (Gott, 1982). The students interviewed in Gott's study also reported a preference for the ward as a learning environment, although "very little" (p.44) teaching was generally provided on the ward.

Allied to the possible enhancement of learning and meeting the preference of nurses, a ward orientation provides a closer approximation to the natural conditions in which new skills are intended to occur. It therefore serves to advance nurse training research into the natural work environment, where few authors have examined training effects (Page et. al., 1982). Also, it serves to increase the trainees' involvement with patients, and since it is ultimately the patients' behaviour that determines the effectiveness of the intervention (Greene et. al., 1978) this development represents a number of possible advantages for all concerned.

The aim of this second experiment was therefore to develop and
evaluate an alternative, project-centred course in behaviour therapy.
It was predicted, in keeping with the literature above and in Chapter 3, that this revision would result in improved implementation rates, i.e. more projects. However, it was expected that knowledge scores would be significantly lower than for the first experimental group, since this was given less emphasis and has been reported to show a weak relationship to skill development (e.g. Bailey and Craze, 1980; Gardner, 1972).

A secondary aim was to carry out an analysis of the relationship between the scores obtained on the six course tests and the seven subject variables studied. This could now be conducted for both experimental groups (N = 65).

In behaviour therapy little attention has generally been accorded to relationships between subjects and outcomes, even when important correlates appear obvious (Milne and Cordle, 1983). The nurse training literature is also characteristically weak in this respect. Chapter 4 provided breakdowns of the fifteen reviewed articles (Table 4-1; 4-5) and Table 4-6 summarised these data in estimating that only 19% of authors had provided the ten subject variables discussed in Chapter 4.

Considering the seven variables studied here, namely sex, age, academic and nursing qualifications, duration of service, grade and knowledge and experience of behaviour therapy, fewer authors still provided these or similar data. For example, only seven authors indicated their subjects' nursing qualifications, and only three stated whether they had any prior knowledge or experience in the topic taught.

Of those authors who did report the piecemeal information on subjects, only Paul and Lentz (1977) went on to relate these data to training effects. Hogg et. al. (1981) related outcome to the patients' personal characteristics, something that seems to be given cursory comment by the majority of authors, but is also not systematically related to outcome by most authors, with the exception of Hogg et. al. (1981) who detailed their profoundly mentally handicapped patients' learning characteristics. Paul and Lentz (1977) reported that their demographic data, namely age, academic education, sex and service duration, were not predictive of performance. In the parent-training literature, O'Dell et. al. (1982)
have reported one of the few comparisons of mediator variables and training outcome. They related sex, race, age, marital status, socio-economic status, income and reading grade to their four forms of parent training. A general, positive relationship was found for higher education, socio-economic status and reading level with their outcome of reinforcement skills score. However, they suggested that there was differential predictability across the four training groups, with, for example, the videotape based format reducing or eliminating any such relationship. On this basis, they concluded that there was an interaction effect between some mediator characteristics and the effectiveness of some types of training methods. This effectively reduces further the basis for prediction.

From these findings it was reasonable to expect little relationship between the subject variables and outcome, and although senior nurses informally opined that the younger nurses would learn more, the findings of Paul and Lentz (1977) suggest that service duration was not related to outcome. The null hypothesis was therefore that the seven subject variables would not be significantly correlated with any of the six outcome measures, either before and after the course.

3. METHOD
a) Design: The same design was utilised as for Experiment 1. This entailed repeated assessments of the nurses before and after the five day training course, with a follow-up assessment up to one year later.

No new control group was considered necessary, since the major questions concerning instrument reactivity and changes consequent upon repeat assessments had already been satisfactorily addressed. Also, the possibility of changes over time influencing the new cohort of subjects could be evaluated from a comparison of baseline scores across groups.

b) Subjects: Demographic data were gathered as for Experiment 1 and as outlined above. Analysis (Mann-Whitney 'U' Test) indicated that there existed no statistically significant differences between the
new and old experimental group subjects, or between either of the
eperimental groups and the control group nurses. There were,
therefore, no marked differences between these three groups, and
they were regarded as matched on these seven demographic variables.
This also indicated that there was no evident trend for successive
allocations of nurses to differ on these variables. This was an
important finding, since it provided evidence that the sample were
representative of at least the rehabilitation unit, if not the whole
hospital, and so increased the generalisability of the results. More
immediately, it suggested that the second experimental group were not
different from their predecessors on these seven variables, thereby
eliminating one possible explanation for the obtained results.

<table>
<thead>
<tr>
<th>Demographic Variable</th>
<th>Control Group (N = 18)</th>
<th>Experiment One (SLF) Group (N = 41)</th>
<th>Experiment Two ('Project') Group (N = 24)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>S.D.</td>
<td>Mean</td>
</tr>
<tr>
<td>Age (years)</td>
<td>35.1</td>
<td>9.9</td>
<td>36.5</td>
</tr>
<tr>
<td>Sex</td>
<td>0.45 (female)</td>
<td>-</td>
<td>0.61 (female)</td>
</tr>
<tr>
<td>Grade*</td>
<td>5.4</td>
<td>1.2</td>
<td>4.9</td>
</tr>
<tr>
<td>Nursing Qualifications</td>
<td>2.5</td>
<td>1.4</td>
<td>3.2</td>
</tr>
<tr>
<td>Other Qualifications</td>
<td>0.6</td>
<td>0.9</td>
<td>1.1</td>
</tr>
<tr>
<td>Duration as Nurse (years)</td>
<td>12.6</td>
<td>8.3</td>
<td>11.1</td>
</tr>
<tr>
<td>Knowledge and Experience</td>
<td>1.2</td>
<td>0.6</td>
<td>0.83</td>
</tr>
</tbody>
</table>

Table 10-1: A Summary of the Demographic Data for all Groups

* 4 = SEN; 5 = Staff Nurse; 6 = CN/Sister
* 2 = SEN-M; 3 = RMN'
@ 1 = 1-5 'O' levels; 2 = 6+ 'O' levels or 1 'A' level
$ 1 = some reading or lectures; 2 = 1 + some experience
c) Measures: The same six measures were administered pre and post-training, as for the previous experiment. The course evaluation, interview and project measures were also unchanged. The following flow chart provides a summary of these, in order of administration:

```
Start of Course
   ↓
Baseline Assessment
   ↓
a). Demographic Data Sheet
b) Conservatism Scale ('C' Scale)
c) Simulated Proficiency Test (SPT)
d) Knowledge of Behavioural Principles Questionnaire (KBPQ)
e) Attitude to Treatment Questionnaire (ATQ)
f) Functional Analysis Test (FA)
g) Formulation and Treatment Plan (FTP)
```

Core Course
   ↓
Post-Test Assessment (b-g above followed by teaching methods evaluation)
   ↓
Project Plan
   ↓
Project Implementation
   (Behaviour Therapy Proficiency Scale - BTPS)
   ↓
Interview

d) Apparatus and Materials: The changes made from the first experiment were a reduction in the steps contained in the syllabus and therefore a reduction in the practicals and handouts. The revised project-based course consisted of eleven steps, as follows in Table 10-2.

Four steps were therefore omitted as separate entities, namely 'behaviour therapy', 'learning modalities', 'extinction and time-out' and 'maintenance and generalisation'; 'modelling' was combined with the other forms of prompting. However, none of these topic areas were actually abandoned, but rather they were subsumed under other topic headings. For example, 'behaviour therapy' was incorporated with step 1, 'applications
of learning principles', and 'maintenance and generalisation' was covered within the 'types and uses of consequences' step. Details of these changes are appended in the core course manual (Appendix 17). In all other respects the materials were the same as for Experiment 1.

<table>
<thead>
<tr>
<th>Step Number</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Applications of learning principles</td>
</tr>
<tr>
<td>2</td>
<td>Defining and describing behaviour</td>
</tr>
<tr>
<td>3</td>
<td>Recording behaviour</td>
</tr>
<tr>
<td>4</td>
<td>Observational techniques</td>
</tr>
<tr>
<td>5</td>
<td>Baseline records and graphing</td>
</tr>
<tr>
<td>6</td>
<td>Classical conditioning</td>
</tr>
<tr>
<td>7</td>
<td>Operant conditioning</td>
</tr>
<tr>
<td>8</td>
<td>Types and uses of consequences</td>
</tr>
<tr>
<td>9</td>
<td>Shaping, prompting, modelling and fading</td>
</tr>
<tr>
<td>10</td>
<td>Chaining</td>
</tr>
<tr>
<td>11</td>
<td>Planning programmes</td>
</tr>
</tbody>
</table>

Table 10-2: The Revised Core Course Steps.

e) Procedure: The major alterations here were the changes in practicals from classroom, role-play formats to ward-based assignments. Thus, instead of using a video to present material for observation practice (steps 2 and 3), the task became one of observing patients on the nurses' wards. Similarly, all steps where this could be implemented were modified around the nurses' selected patients and learning in the ward context. Furthermore, each step was designed to represent a successive step in the writing of the project plan. In this vein the nurses were asked at the outset (step 1) to select a patient who was available and with whom they would like to work, and were given the project plan outline as a means of providing a framework for the steps and their patient work. The project therefore, became the reason for covering the steps, rather than the reverse, as was the case in the first experiment.

Each practical was followed by the discussion period, and this became more animated as nurses brought back problems from their
assignments. There was therefore also an early re-arrangement of the supervisory element, bringing it forward and also in taking the supervisors out onto the wards to observe and assist subjects during the practical phase of each ward-based step. Instead of supervising role-plays and written exercises the trainer went around the wards with the nurses, returning with them to the classroom for the discussion period. In other respects the teaching procedure was unchanged and continued to follow the structured learning format. However, the fewer steps allowed the practical and discussion phases to last longer, the former still representing an average of 40% of the available time, with the discussion phase extended to fill the extra time left over from the initial three 'chalk and talk' phases, whose contents remained unchanged.

The baseline and post-test assessments were conducted as before, and outlined in Table 9-4, as were the course evaluation and interview. The single exception to this was that additional instructions were given to subjects during the baseline administration of the FA and FTP. Once subjects had read the instructions at the head of the FA page the trainer said:

"In the remaining two tests please try to give a clear description of the behaviour you observe. This means that as far as possible you should try to be 'objective' - write down what you can see and not what you think, interpret, or imagine may underlie the behaviour. Also, concentrate on what you can actually see in the patients' physical environment when you try to explain this behaviour."

A sheet with the above was then handed out and subjects were asked to keep it in front of them when doing the two tests.

The procedure for projects was also altered, since these commenced with the first step of the revised course rather than following the last step as before. Nurses were set the goal of gradually writing the plan during the course, and of utilising the final step, 'planning programmes' to complete the plan. In practice most requested extra time following the course in order to complete it. Once the project was finished the psychologists provided supervision as before, liaising with the individual nurses who returned plans.
A follow-up was carried out after an average period of 9 months, and the ten available nurses were then re-assessed as before on the knowledge (KBPQ), attitude (ATQ) and skill (FA) measures.

4. RESULTS

These will be presented as for Experiment One. Figure 10-1 shows the mean percent scores obtained by the revised course experimental group at baseline, post-testing and follow-up. It can be seen that relatively low baseline scores are again evident. These do not differ significantly from the scores obtained by Experiment One subjects (Mann-Whitney 'U' Test). Also, as before there are marked and statistically significant improvements in scores by post-testing (Wilcoxon Matched-Pairs, Signed Ranks Test) on all except the attitude measures. This represents an improvement over the Experiment One results on the Formulation and Treatment Plan Test (FTP), and comparable results for the other measures. A comparison of the baseline scores for both experimental groups and the control group (Mann-Whitney 'U' Test) indicates that the current group had a significantly lower score on the FA test in contrast with the first experimental group and the control group. There were no significant differences on the remaining measures. This suggests that the revised course group made greater gains on both the FA and FTP when compared with the first experimental group. The full results of statistical analyses are in Appendix 18 and the means and standard deviations for each test are in Appendix 19.

At the nine month follow-up assessment it can be seen (Figure 10-1) that the group's score on the knowledge, attitude and skill measures has been maintained on the latter two tests. A statistical comparison (Wilcoxon Test) again shows that these differences do not differ from the post-test scores.

These classroom measures therefore indicate that this revised, project-based core course obtains superior results on the observation (FA) and planning tests (FTP) by post-testing, and comparable results on the remaining measures. The sole exception to this was the significantly improved attitude score (ATQ) obtained by the original experimental group by follow-up. These follow-up data show that the learning that was demonstrated by the group at the end of the course was maintained.
Figures 10-2, 10-3 and 10-4 illustrate the scores obtained by the original SLF group, the project-based group and the control groups for the knowledge (KBPQ), skill (FA) and attitude (ATQ) measures, respectively.

The results of the course teaching methods evaluation are given in Table 10-2 below, showing both experimental groups' replies. The major discrepancies are the generally elevated scores for the revised course. These do not appear to discriminate between the different modes of learning, with lecture and discussion still receiving the greatest approval, although practising is also greatly elevated to the point of receiving almost unanimous approval. Also, the overall revised course is more highly regarded. A statistical comparison (Mann-Whitney 'U' Test) between these ratings by these two groups of nurses, indicates that the Experiment Two group give a significantly higher \( p \leq 0.05 \) rating on both 'practical' and 'theoretical' dimensions. This indicates a clear preference by the revised course subjects, as compared with their predecessors, for the teaching methods as a whole. This is in terms of both their practical and theoretical value.

<table>
<thead>
<tr>
<th>Teaching Method</th>
<th>Useful, of Practical Value</th>
<th>Informative, of Theoretical Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Exp. 1</td>
<td>Exp. 2</td>
</tr>
<tr>
<td>1. Lecture</td>
<td>72</td>
<td>100</td>
</tr>
<tr>
<td>2. Question and Answer</td>
<td>82</td>
<td>93</td>
</tr>
<tr>
<td>3. Discussion</td>
<td>82</td>
<td>100</td>
</tr>
<tr>
<td>4. Role-play</td>
<td>58</td>
<td>67</td>
</tr>
<tr>
<td>5. Practising ('Learning by Discovery')</td>
<td>70</td>
<td>93</td>
</tr>
<tr>
<td>6. Written exercises ('Learning by Discovery')</td>
<td>62</td>
<td>80</td>
</tr>
<tr>
<td>7. Programmed hand-outs</td>
<td>89</td>
<td>93</td>
</tr>
<tr>
<td>8. Video model</td>
<td>81</td>
<td>79</td>
</tr>
<tr>
<td>9. Video Feedback</td>
<td>78</td>
<td>75</td>
</tr>
<tr>
<td>10. Overall Course</td>
<td>75</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 10-3: The percent of subjects from each core course rating the methods as being "to a large extent" helpful and "very helpful" (5/5). 76% of Experiment 1 subjects and 80% of Experiment 2 replied.
Fig: 10-1 Scores obtained pre/post/ and follow-up project-centred course.

'C' = Conservatism Scale
S.P.T. = Simulated Proficiency Test
K.B.P.Q. = Knowledge of Behavioural Principles Questionnaire
A.T.Q. = Attitude to Treatment Questionnaire
F.A. = Functional Analysis
F.T.P. = Formulation and Treatment Plan
**Fig: 10-2** Comparative KBPQ scores for SLF, project-centred and control groups.

(K.B.P.Q. = Knowledge of Behavioural Principles Questionnaire)
Comparative FA scores for SLF, project-centred and control groups.

(F.A. = Functional Analysis, i.e. observation task)
Comparative ATQ scores for SLF, project-centred and control groups.

(A.T.Q. = Attitude to Treatment Questionnaire)
Table 10-3 presents the same comparison between the experimental groups, in terms of the structured interview. Again the second, project-based course subjects, fifteen of whom were interviewed (63%) clearly stated a preference for the revised course, in comparison with their predecessors view of the original SLF course. Most importantly, perhaps, the revised course subjects were unanimous in their support for the course in terms of its role in increasing interest in their work and in helping them to deal with their patients. In the same positive vein, none stated that the course should be shortened, and 80% considered behaviour therapy to be either the 'best available treatment' or 'very useful'.

<table>
<thead>
<tr>
<th>Interview No.</th>
<th>Questions</th>
<th>Experiment 1 (N = 24; 59%)</th>
<th>Experiment 2 (N = 15; 63%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Did you want to attend?</td>
<td>87%</td>
<td>100%</td>
</tr>
<tr>
<td>2</td>
<td>Were you glad you did?</td>
<td>87%</td>
<td>100%</td>
</tr>
<tr>
<td>3a</td>
<td>Did the course:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- increase work interest?</td>
<td>66%</td>
<td>100%</td>
</tr>
<tr>
<td>3b</td>
<td>- increase feelings of competence?</td>
<td>50%</td>
<td>87%</td>
</tr>
<tr>
<td>3c</td>
<td>- increase your skills?</td>
<td>70%</td>
<td>87%</td>
</tr>
<tr>
<td>3d</td>
<td>- increase chances of job advancement?</td>
<td>25%</td>
<td>47%</td>
</tr>
<tr>
<td>3e</td>
<td>- improve your understanding of patients?</td>
<td>62%</td>
<td>100%</td>
</tr>
<tr>
<td>4</td>
<td>Was it an unhelpful course?</td>
<td>25%</td>
<td>0%</td>
</tr>
<tr>
<td></td>
<td>In what ways could the course be improved?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5a</td>
<td>- content?</td>
<td>45%</td>
<td>13%</td>
</tr>
<tr>
<td>5b</td>
<td>- in teaching methods?</td>
<td>41%</td>
<td>20%</td>
</tr>
<tr>
<td>5c</td>
<td>- by being shorter?</td>
<td>9%</td>
<td>0%</td>
</tr>
<tr>
<td>5d</td>
<td>- or longer?</td>
<td>37%</td>
<td>69%</td>
</tr>
<tr>
<td>6</td>
<td>Did the course alter your attitudes to patients?</td>
<td>29%</td>
<td>80%</td>
</tr>
<tr>
<td>7</td>
<td>How important do you rate Behaviour Therapy as being?</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>54% 'very useful'</td>
<td>67%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>41% 'quite useful'</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4% 'best available treatment'</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0% 'unimportant'</td>
<td>0%</td>
<td></td>
</tr>
</tbody>
</table>

Table 10-4: Results of the interviews with subjects from the SLF and revised core courses. (Experiment Two)
Interestingly, with respect to the test results, 80% also reported that their attitudes to treating patients had improved. A statistical comparison across all fourteen interview categories (Mann-Whitney 'U' Test) revealed that the revised course subjects gave a significantly more favourable account of the course ($p \leq 0.05$).

The final evaluation was the number and quality of implemented projects. The revised course group produced better outcomes in respect of the proportion of projects carried out; these rose from 26% to 75%. The quality of plans was slightly reduced (81% and 76%) but the skill score, as rated on the Behaviour Therapy Proficiency Scale (BTPS) was identical at 80%. The rating of clinical outcome, based on nurses' records, discussion and observation of changes in the target response, was marginally and non-significantly different (Mann-Whitney 'U' Test). The first and second groups scores 3.4 and 3.5 respectively. This score represents a 'large improvement' in the patients' targeted problem, defined as a 41-79% alteration in the desired direction when contrasted with the baseline level.

The project-based course group also undertook a wide range of problems, including urinary incontinence, meal and medication attendance, bedmaking, dressing, social isolation, absconding and shaving. These findings are presented in Table 10-5 below.

These project outcomes are therefore comparable in quality but greatly exceed the quantity returned by the first experimental group. This indicates that the revised course was successful in achieving its major objective of increased implementation, and that this is logically attributable to the changes in the course rather than to other variables such as differences in the two groups of subjects. However, the relationship between subjects' demographic variables and their test scores are examined below, to see whether any clear relationships exist for the sixty-five experimental subjects from this and the previous chapter.
<table>
<thead>
<tr>
<th>GROUP</th>
<th>PROJECT EXAMPLES</th>
<th>MEAN SCORE FOR PLAN (0-18)</th>
<th>MEAN SCORE FOR SKILL (BTPS) (0-15)</th>
<th>MEAN CLINICAL OUTCOME RATING (0-4)</th>
<th>PROPORTION PROJECTS COMPLETED</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>81%</td>
<td>80%</td>
<td>3.5</td>
<td>16%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>75%</td>
<td>80%</td>
<td>3.5</td>
<td>70%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>20%</td>
<td>18%</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Table 10-5: Summary of the Project Outcomes for all Three Groups of Nurses
Subject Variables

Seven characteristics were examined for these sixty-five subjects, being: age, sex, nursing grade, nursing qualifications, academic qualifications, duration of service as psychiatric nurse and prior knowledge and experience of behaviour therapy. The derivation of scores for these variables has been described in Chapter 9. A Pearson product moment correlation coefficient ('r', Nie et. al., 1975) was carried out, relating these seven subject variables with a) baseline, b) post-test and c) post-test minus baseline scores on the six core course tests. The latter comparison was intended to relate amount of learning to these characteristics.

a) The results of the correlation of the baseline test scores and subject variables indicated significant negative associations between nursing qualifications and the FTP (p ≤ 0.05), and between academic qualifications and 'C' Scale (p ≤ 0.01), SPT (p ≤ 0.05), KBPQ (p ≤ 0.05) and ATQ (p ≤ 0.01). The knowledge and experience variable was also negatively correlated with these four tests (p ≤ 0.01), and also with the FTP (p ≤ 0.01).

b) The post-test scores showed a similar relationship, with academic qualifications (p ≤ 0.05) and prior experience (p ≤ 0.01) being negatively correlated with five and six of the tests respectively. Duration of service was positively correlated with the 'C' Scale score.

c) The last analysis, between learning and subject variables, revealed less consistent associations. Again, the knowledge and experience variable was most frequently negatively correlated, with SPT (p ≤ 0.01), ATQ (p ≤ 0.05) and the FA (p ≤ 0.01). For the first time the age variable reached significance, being positively correlated (p ≤ 0.01) with the 'C' Scale score change and negatively correlated (p ≤ 0.05) with the ATQ score change for the group. The sex variable also reached significance (p ≤ 0.05), being positively correlated with the ATQ score change between baseline and post-test. Nursing qualifications were significantly and positively related (p ≤ 0.05) with FA scores, and duration of service correlated positively (p ≤ 0.05) with 'C' Scale changes.
Overall, correlations for all three analyses were uniformly low, ranging from $r = 0.01$ to $r = 0.3$. This indicates that there was little systematic relationship between subject characteristics and scores obtained on the variables considered. The significant associations for subject variables mostly involved academic qualifications and prior knowledge and experience of behaviour therapy. There were none for sex or grade, and only one for duration of service and nursing qualifications from the twelve comparisons using baseline and post-test scores. The results from the difference between these scores, namely the learning effect, show more widespread correlations which are largely with the attitude tests (ATQ and 'C' Scale - five of the eight significant findings). Age, duration of service, and knowledge and experience are the subject variables correlated with these measures.

The matrix for the subject variables times learning correlation is in Appendix 20.

5. DISCUSSION

There was definite support for the major hypothesis of more projects resulting from the revised course, with a 49% increase obtained over Experiment 1. Of comparable significance was the finding that neither the quality nor range of these care plans suffered as a consequence.

The finding is not surprising in view of the literature on practical, task-related learning, which typically indicates a positive correlation between the proximity of training conditions to the 'real life' demands and implementation levels. The best instance, from amongst the reviewed literature, is that of Paul and Lentz (1977), although all the articles that compared performance and theoretically based formats found similar results (see Chapter 4 for further evidence). One reason that has been advanced for this finding is that 'learning by discovery' has greater inherent motivational properties (Gott, 1982), in the sense of providing problems, feedback and so on in a form that the learner is readily
inclined to regard as important, namely something they have experienced directly with a patient. It can be contrasted with the relevance accorded to more theoretical learning formats, where in the triadic model there is an inevitable 'credibility gap' between expert and mediator, as only the latter knows the patient. This was obviously the case in this research, since the psychologists could never even expect to know the names of all two hundred and fifty patients. It was in terms of these single case examples that nurses made their objections known on the first course. The recurring question was how did a given technique apply to a particular, usually renowned patient. The only answer the psychologist could give was again of a general, theoretical nature, and so a gap remained between the experiences of 'consultant' and mediator. The revised course overcame this difficulty, both by making the introductions between consultant and patient, and by ensuring that 'theory' was related to specific cases. It seems likely that this single factor accounted for a large part of the improved regard that nurses gave to the project-based course, in their evaluation forms and interviews. Another consequence may have been that nurses also viewed the behavioural techniques as more plausible and useful once such focused learning was introduced.

A second strand of literature, concerned with the adoption of innovations, would not have predicted these implementation rates, since few changes were made to the wider institutional context. For example, Georgiades and Phillimore (1975) have argued that in-service training is not the way to create change in an institution, since it is based on "the psychological fallacy that since work-organisations are made up of individuals, we can change the organisations by changing its individual members" (p.314). The wider social system, or 'ecology' of the institution is usually regarded as the major determinant of behaviour, and so they urge observance of guidelines that take these dimensions into account (see Chapter 2). However, on the ecological argument of some unexpected effects resulting from any intervention into such a system (see Chapter 8), one highly likely consequence is that the institution will inevitably be altered by training its manpower.
It is, of course, difficult to place much confidence in the interpretation of these kinds of correlational events, even if they are described in cause-effect terms by numerous of the effected individuals. However, this is not necessary for the argument, since it is enough here to draw attention to the variety of institutional constraints. These will make individual-based innovations more or less likely to succeed, but not impotent. It therefore seems inconsistent to argue, as Georgiades and Phillimore do, from the complexity of the system without fully conceiving of and incorporating this complexity.

One could add, for instance, that individuals differ in their willingness to adopt innovations (Kirton, 1980) and this is clearly not completely determined by the institution in which they work, since some of these samples, diagnosed as either 'innovators' or 'adaptors', occupy the same work-places. Also, beyond some preliminary research we do not know which institutional variables influence innovation nor their relative potency. It seems very likely that the variables of available time, feedback, public scrutiny, (social) consequences and carefully programmed activities are amongst these institutional determinants. These variables were manipulated in Experiment 2 by altering the training format. There is, therefore, a definite and inescapable interaction between 'treating' the individual and 'treating' the institution in which he works, and to attempt to isolate the two, while in the noblest scientific spirit, is to once again introduce a credibility gap, this time between 'applied' and 'laboratory' models of research, as perceived no doubt from both positions. In sum, the high implementation rates reported above cannot be attributed simply to either the revised course or the institution, but to both. It seems plausible, however, that the revised course, by building in solutions to some earlier problems, such as time to write plans, facilitated both 'individual' and 'institution' adoption. In this sense, one has to agree that previous research on mediator training has been "over simplified" (O'Dell et al., 1982, p.206), as indeed one might suggest has been the case with the majority of behavioural research.

The baseline scores on the FA and FTP and their relationship to those obtained by the first, SLF course suggests that the effort to overcome any possible misunderstanding of the terms or task involved
did not result in a significant improvement in scores. It therefore appears that the task is intrinsically a difficult one for untrained nurses and not simply a problem, for example, of a 'psychiatric set'. In keeping with this finding, Dancer et al. (1978) found that informing nurses of the desired terminal goal of observation did not alter their answers.

The second hypothesis, of a relative reduction in the effects of the course on knowledge, was not supported: subjects' KBPQ scores in this experiment were as good as those obtained by the Experiment 1 subjects having the less practical course. As the KBPQ is a broad ranging measure of knowledge this similarity of outcome cannot readily be attributed to instrument insensitivity. It is parsimonious to regard such findings in terms of overlapping learning effects, although the literature is divided on this possibility. Gardner's (1972) study indicated that they were distinctly related to teaching methods, but Milne (1982) found his practical biased 'active' teaching resulted in superior skill and knowledge scores as opposed to a more traditional teaching format. These apparently disparate findings can be united if one again invokes the notion of complexity: in a laboratory type evaluation like Gardner's, discrete changes can be pinpointed; however, when a variety of learning opportunities occur, as is invariably the case in more practical, patient-orientated formats, then some crossover may occur. As the ancient Chinese put it, 'I do and I understand'. It is also plausible that the longer-term training course examined here tends to annul relatively brief manipulations of the theoretical elements, such that after one week of training all the 'knowledge' items are adequately covered, even on the project-based course. To re-phrase, it was possible that the SLF course covered theory that was superfluous, either to score on the KBPQ or to conduct projects, and that the revised course achieved a better balance.

A supplementary explanation is based on a 'pure' operant analysis of learning. In this, the theoretical and practical aspects of the course and teaching methods can be seen as establishing discriminative stimuli for one another. These stimuli take the form of rules governing thinking and doing in relation to behaviour therapy (Loeber and Weisman, 1975). Thus planning an intervention elicits rules regarding behaviourally appropriate actions, and vice-versa. With a course lasting five days, this reflexive arrangement results in considerable familiarity with both elements and may then be reflected in improved test scores.
Another variable that merits attention is the traditional one of the teacher. It was quite possible that the trainers' skill and knowledge improved with successive courses. This is particularly so since the training format maximised feedback to the trainer, and hence provided the basis for learning about running the course. However, the absence of a clear difference between the first and second experimental groups (being those nurses attending the initial and final group of courses) on the measures administered before or after each course diminishes the likelihood of a selective effect attributable to the trainers' learning. Also, examination of the results of the first seven courses indicated that there was no trend for scores to improve on any of the six measures for the successive baselines.

These data therefore suggest that there was no clear relationship between the learning of trainers and nurses, as indicated by the six tests administered before and after the course. This does not exclude the possibility that the two trainers learnt about their training, since the measures may have been insensitive to this change. For example, the main kind of learning may have been the 'desensitisation' of such aspects of training as public speaking. The learning of the trainer does not therefore appear to influence systematically the results derived from successive courses.

The third and final hypothesis concerned the nurses' demographic variables. In refutation of this null hypothesis, very significant negative correlations were obtained for the variables of 'academic qualifications' and prior 'knowledge and experience' with all tests at baseline and post-testing. This indicated that as these decreased so the scores at these timepoints increased. From the predictive standpoint, these would indicate that nurses selected on the basis of low scores on these demographic variables would do best on the course. There was support for this possibility in the results obtained by other hospital staff attending the course: unqualified Occupational Therapy helpers \( N = 8 \) were the group who learnt most on the course, whereas highly qualified Psychiatrists \( N = 4 \) did least well.

The 'learning' comparison, that is the difference between baseline and post-test scores, produced a less emphatic picture. Five of the seven demographic variables had at least one significant correlation with a test, particularly the attitude tests with five of the eight significant correlations. As these were also the only positive
correlations there was evidence that more conservative and behavioural attitudes were associated with a facilitation of learning. The predictions for each of these expressed attitudes would be expected to differ, with conservatism relating to little change and the behavioural position to a greater predisposition to change. However, these putatively different attitudes are positively correlated, indicating little relationship between their theoretical underpinnings and learning on the course. In keeping with the finding of no significant correlations at baseline, this also suggests that attitudes, as measured here, bear little relationship to demographic variables, such as age.

Equally unexpectedly, increases in the knowledge and skill scores were associated with less prior knowledge and experience. The readiest explanation for this surprising finding is the reliance on self-report for the nurses' ratings of their prior knowledge and experience of behaviour therapy. As other evidence, such as the baseline knowledge and skill scores, indicated a generally low presence of these elements it is possible that subjects were exaggerating their own baselines and/or misunderstanding what was encompassed by the term 'behaviour therapy', thereby invalidating the comparison.

Paul et al. (1973) found that the best predictors of skill scores were previous skill scores, and that attitudinal and academic variables were unrelated to these. This fits with the above findings, and suggests that if any screening of subjects or predictors of performance were considered valuable then a skill assessment alone would be helpful. This is in keeping with the results of the discriminant analysis of test scores (Chapter 9), which very clearly indicated that the observational skill test (the FA) was the best predictor of project implementers. Also, the equivocal attitude measure findings are in keeping with the minimal value of these tests as measures of training effects, or predictors of project implementation.
SUMMARY

A revised course, revolving around the project as both a learning device and teaching objective resulted in comparable outcomes to those obtained in Experiment One. The major exception to this was the large and predicted improvement in the proportion of completed projects. There were no 'compensatory' weaknesses to this course format, and the prediction of reduced knowledge attainment was rejected. Also, social validity data very definitely supported the revised course format and maintenance data were comparable to those obtained in the first experiment. In sum the course seemed to have successfully overcome difficulties that some authors locate largely in the 'institution' rather than the individual, by taking account of both. The increased approval of the nurses for this revised, ward-based learning course may be one major reason for this, but it was argued that there inevitably existed a complex relationship between individuals and institutions, and that this precluded simple cause-effect analyses.

The correlation of subjects' demographic data with test scores and learning on the course yielded generally weak associations as predicted. However, there were several statistically significant ones, suggesting some concomitant variation, mostly indicating a negative one between 'academic qualification', prior 'knowledge and experience' in behaviour therapy and all six tests at pre and post testings. A comparison of these tests with learning indicated that the attitude tests had an equivocal, puzzling but persistent relationship with the demographic variables. It was concluded, in concert with the major piece of research in this area (Paul et. al., 1973), that the only reliable predictors of learning and skill were prior, objective assessments on the same dimensions, and that demographic data were unreliable for this purpose.
CHAPTER 11

EXPERIMENT THREE

Assessing the validity of Naturalistic Observation of Nurse Training Effects
Abstract

The preceding two chapters offered a number of evaluations of the nurse training. However, these were restricted, with the exception of the project evaluation, to the 'classroom' setting. In behavioural assessment it is especially important to obtain observationally-based evaluations and the ecological perspective exaggerates this bias by adopting observation to the virtual exclusion of other measurement methods. In the latter orientation great importance is accorded to 'unobtrusive' or 'naturalistic' observation, since this form of assessment is considered to yield more valid data.

To a considerable extent this is an empirical question, and there exists a large literature concerned with such limits on validity as the effects of the observational procedure on nurses and patients, subsumed under the term 'reactivity'. Given the value of data derived from naturalistic observation, it therefore became necessary to determine the extent to which reactivity represented a threat to validity. This logically preceded consideration of the observational data as evaluative measures of nurse training, and this is dealt with in the next chapter.

The aim of this chapter was therefore to determine the validity of this important form of assessment, prior to its administration. To achieve this, two topics were studied. The first was the selection of an observation period, and data from day-long observations indicated the representativeness of the period 4-5 p.m. The second, and more difficult topic, was subject reactivity. This was gauged by use of two traditional approaches, namely varying observer presence (or 'obtrusiveness') and data comparisons over long time periods ('habituation'). The results indicated that reactivity was minimal.

Finally, concurrent validation data were obtained from nurses and patients, in the form of structured interview information. This corroborated the findings derived from the obtrusiveness and habituation manipulations, and suggested that the observational procedure was valid.
INTRODUCTION

The unique advantage of observational methods in providing assessment data high in content validity and low in its reliance on inference have to be weighed against the multiple confounding influences. These include observer agreement and bias, and the broader question of generalisability, of which reactivity is an example (Johnson and Boletad, 1973). Reactivity refers to the influence of measurement procedures on the behaviour of the subject (Webb et al., 1966) and more specifically in the present research to the degree to which the observer intrudes upon and alters this behaviour (Weick, 1968). To the extent that observed behaviour is modified by this measurement procedure the results are restricted in their generalisability to other settings, to other subjects and to the non-observed periods within the same setting.

The use of observational assessments in behavioural analysis generally is common (Kelly, 1977), and there have been commensurate attempts to assess reactivity along with the other confounds. Two frequently used methods are to study the stability of the observed behaviour over time ('habituation') or to compare the effects of different levels of observer presence ('obtrusiveness'). The latter approach requires less of an inference but may lack an assessment of the probably more representative data of an unobtrusive paradigm. An example of the obtrusion approach is that of Kent et al., (1979) who compared observational recordings made in vivo, via a mirror and via television across nine categories of disruptive child behaviour. They found no significant effects resulting from these three levels, and concluded that there was little systematic distortion in the frequency of recorded behaviour as a function of the different media, although there was an exception in the case of the 'vocalisation' category. Similarly, Conte (1979) varied the overtness of mother-child observations ranging from video camera or human observer in the room to covert observation. He found only one of seventeen categories were significantly influenced. Callahan and Alevizos (1973), using the Behaviour Observation Instrument (BOI) described in Chapter 8, investigated reactivity using the comparisons across time paradigm. They found no evidence of habituation over a four week period of observing chronic patients on a psychiatric ward.
However, the results of reactivity research are generally less specific or conclusive (Patterson and Harris, 1968). Pollack (1979) has proposed a dual-process model of non-specific and focal reactivity as a way of clarifying and extending findings. The term focal refers in his research to the sensitivity of specific behaviour categories to attempts to cause "best" and "worst" behaviour in hyperactive children. This has been referred to as 'faking good' and 'faking bad' in the literature (Johnson and Lobitz, 1972). As hypothesised, Pollack found that social behaviours were vulnerable to focal confounding whereas motor activity measures were generally non-reactive. This is an appealing model, as it encourages a more comprehensive assessment and refined analysis of the relationship between manipulations of the observers' presence, and observees' behaviour. It therefore served as the basis for a study of reactivity related to the present research, i.e. the measures, procedures, personnel and settings involved in gathering the data reported in Chapter 12. The need to make such assessments in new settings has been emphasised by Alevizos et al. (1978).

However, the first issue addressed in this chapter is the question of the observation period. Clearly, certain activities, such as meals, are constrained by time and by other factors. This makes for a number of substantial "bursts" of given behaviour categories during the ward day. While these could be adequately represented by random or continuous periods of observation, both were regarded as unnecessarily time-consuming and imprecise approaches, since the aim of the overall research programme allowed specification of more limited and relevant time periods. These were those periods that were least likely to reflect the effects of the staff training intervention. Hence, the object was to select a period of time when the 'structured' or programmed ward day of activities was relaxed, and when most patients were present. In contrast, staff training effects were regarded as far more probable in the ward programme (e.g. self-help skills such as shaving), and were in any case directly and overtly assessed with the projects, discussed in the preceding two chapters. The aim of this aspect of the research was therefore to assess whether unpredictable or 'ecological' effects were present, and hence a minimum of structure was preferable. An additional ecological emphasis in this priority was that it would afford data that were characteristic of the 'natural' frequencies of behaviours, i.e. those occurring during 'unobtrusive' parts of the ward day.
The second issue was that of reactivity. In contrast to the foregoing, this focused more attention on the nurses, since any distortions in their behaviour that were attributable to the observation process would influence the inferences that could be made regarding training effects. For example, if nurses 'faked good' for the observer they could grossly distort the 'natural' state of affairs and invite faulty conclusions regarding the success of training. To minimise the likelihood of making logical errors of this kind three safeguards were adopted. One was to sample a broad range of patient and nurse behaviours; a second was to interview both parties once observations had ceased; and a third was to make use of an 'habituation', time series design. The probability that faking and other distortions would influence systematically the results was regarded as substantially reduced by these safeguards.

STUDY ONE: SELECTING AN OBSERVATION PERIOD

a) Introduction: To a large extent the choice of a time of day to carry out observations was determined by the existing ward routine. This dictated that the only periods when patients and nurses were meeting the criteria of 'unstructured' activity and were present in large numbers were in the late afternoon and evening. For the remainder of the day there were ward routines and off the ward tasks, such as O.T., I.T. and gardening, with the patients only returning for meals. The evening period was 'structured' by the occasional activity, the appeal of television, and further excursions from the ward, mostly to the hospital social centre. This therefore left the late afternoon, i.e. between 4.00 p.m. and 5.00 p.m., as the most appropriate period to observe the behaviour of patients and nurses. However, it was considered valuable to compare this period with the remainder of the day simply to estimate the extent to which specific behaviours and more global themes such as 'level of activity' occurred at other times. This would provide an indication of any discrepancies, which might in turn bear on the interpretation of results. A further step, taken to maximise the representativeness of the data while minimising effort, was to observe a ward that was intermediate in the dependability rankings. These rankings were based on the patients' assessment (PPBI)* as described in Chapter 3. As a result, the patients could be expected to

* Psychiatric Patient Behaviour Inventory
provide the 'middle-range' of rehabilitation ward behaviours, neither being excessively immobile and inactive, nor relatively verbal and active.

b) Method

Subjects: Based on the PPBI assessment, these patients were classed as groups 4, 5 and 6 (eleven PPBI groups in total). Their three most frequent problems are given in Table 11-1 below.

<table>
<thead>
<tr>
<th>PPBI Group</th>
<th>Most Frequent Problems (ranked)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Shopping, Occupational Health and Hygiene</td>
</tr>
<tr>
<td>5</td>
<td>Shopping, Mobility, Domestic</td>
</tr>
<tr>
<td>6</td>
<td>Domestic, Financial, Shopping</td>
</tr>
</tbody>
</table>

Table 11-1: A Summary of the PPBI Groups on the Observed Carlton Hayes Ward.

Materials: The Behaviour Observation Instrument (BOI, Alevizos et al., 1978), the Social Reinforcement Rating Scale (SRRS, Gelfand et al., 1967) and the Attendant Behaviour Checklist (ABCL, Gardner and Giampa, 1971) were the observational measures used. Descriptions of each follow:

(i) The BOI: This is a multicategory, direct observation instrument. It consists of two types of category, 'mutually exclusive behaviours' such as sitting or walking and 'concomitant behaviours', which includes drinking and recreational activities. All behaviours falling into these two categories are recorded. For example, one sample of a patient's behaviour might be coded as sitting, eyes open, reading. In the original article settings were also coded. It was unnecessary in the

* Behavioural Observation Instrument
present research to do more than indicate the ward, since all
observations occurred in the day-room. The record sheet and manual
for the BOI are in Appendix 12. There was one change made from the
original, being the substitution of the original Category 21 ('not
present') by 'looking', as this was more common in the present patient
population and also since the original item was excluded by the
modified procedure described below. Also dropped from the BOI categories
were items 18 and 19 ('in IT/OT', 'in a group meeting') since they
were also excluded by the procedure.

The major objective in developing the BOI, the authors stated,
was "to provide a behavioural index of the impact of a treatment
programme on the activity of individual clients and groups of clients"
(p.244).

(ii) The SRRS: * This was designed to assess the social reinforcement
contingencies which patients experience in psychiatric hospitals. The
patients' behaviour was observed and rated for its appropriateness
and the response of nurses to this behaviour was also noted. Thus,
for example, a patient could exhibit bizarre motor activity
('inappropriate' behaviour) and this might be ignored or rewarded by
a nurse. In addition to the appropriate - inappropriate dichotomy,
three kinds of consequence were noted; 'reward', 'punishment' and 'ignored'.
These were defined on a superficial rather than an empirical basis,
in terms of assumed effects of certain classes of consequence. These
are detailed in the manual (Appendix 10). The record sheet (Appendix 10)
allows the distinctions to result in the observer simply ticking the
relevant cell. In the original article, patients' behaviour was rated
on a five-point scale ranging from 'highly inappropriate' to 'highly
appropriate'. This convention was not followed in the present research
since the extra complexity would have represented too great a burden
on the observer: unlike the original article, the present observers
attended to all patients in the day-room and not just one. This broad
and less elaborate approach was preferred as it fitted with the objectives
of obtaining a wide and simple description of what was happening on the
room, so maximising the generalisability of findings.

(iii) The ABCL: This is an eleven category behaviour checklist covering
a range of nurse activities such as 'supervision', 'patient training'

* Social Reinforcement Rating Scale
‡ Attendant Behaviour Checklist
The authors argue that the ABCL is a comprehensive and representative form of evaluation, not subject to the kind of 'faking' associated, by them, with other measures such as the critical incident technique. The full list of eleven categories was not used in the present research, again since the procedure dictated that certain categories, such as 'clothing management', would not be observable. The six retained items are given below, in Table 11-2, together with two added categories. These were related to a further modification of the original ABCL, namely the distinction between 'patient orientated' and 'other activities'. The final version therefore encompassed the eight categories given below, in Table 11-2.

| 1. Patient Orientated Activities | a) Supervision  
b) Personal Care  
c) Socialisation  
d) Training  
e) Other/Indeterminate |
|---------------------------------|------------------|
| 2. Other Activities             | a) Leisure Time  
b) Ward Management  
c) Other/Indeterminate |

Table 11-2: ABCL Categories Used in the Present Research

The definitions of these activities were provided in a manual (Appendix 11). The record sheet is also appended there.

c) General Procedure: The measures were administered in the order BOI, ABCL, SRRS, BOI. This allowed two separate periods of observing patients per day, as recommended by Alevizos et. al. (1978). The ABCL and SRRS were actually used alternately, using a single record sheet (as in appendix 10). The observer began by greeting staff and saying they were going to make their observations. They then placed a clipboard containing record sheets and manuals in front of themselves and kept a stopwatch in the non-writing hand. After completing the details of date, ward etc., the BOI was completed first, with all
observable patients' behaviour being coded. Each patient was sampled for five seconds and all behaviours occurring in this interval were coded. Patients were sampled from left to right, from the observer's perspective. This was as constant as possible across days. One five second interval observation was made every thirty seconds, and these continued until all observable patients in the room had been sampled and coded. Therefore, for ten observations the total period of BOI use was five minutes. Once the BOI was completed the observer started the ABCL. This involved turning to the second record sheet and noting and coding nurses' activities. These observations were based on one second sampling, i.e. what the nurse was doing when the stopwatch reached the interval. For the ABCL this 'instant' or 'moment' sampling was every 'quarter-to' and 'quarter-past' the hour. Fifteen seconds later, i.e. on the hour and half hour, one similarly instant sampling was made of the ongoing interactions for the SRRS part of the record sheet. The observer continued alternating in this way, making two ABCL and two SRRS observations per minute until the record sheet was completed. The sheet allowed for twenty-five entries, i.e. a total of twelve and a half minutes of observation of both the nurses' activities and their interactions with patients. The observer then repeated the BOI as before and stopped observing. They then got up from their seat, told the staff they had finished, and left the ward. The clipboard, stopwatch and record sheets were kept in the psychology department, unavailable to nurses or patients. If either of these parties requested information on what the observer was doing, or attempted to engage in conversation they politely but firmly stated that they were busy and could not talk to them at that moment. If approached at other times they referred queries to the author.

**Specific Procedures:** In the case of the all day observations at Carlton Hayes, (the present study), one hour long periods of continuous observation were conducted on different days within a one month spell. This represented a mean of four completed record sheets per hour. The hours sampled were the waking day of the majority of patients, namely 7 a.m. to 10 p.m.

**Alterations to the Original Procedures:** In addition to the changes made in using the SRRS, as outlined above, the procedures for the ABCL and BOI were also slightly modified. Both were changed to reflect the stationary observer, who, unlike the observer in the original studies, did not follow
nurses and patients throughout their daily activities. Other changes were similarly necessitated by the prevailing circumstances. For example, unlike the original use of the ABCL, no one-way mirrors were available and so covert observations from outside the day-rooms were not possible. Also, there were insufficient observers to follow patients around all day, as in the original use of the BOI. As a consequence, more subjects were observed with each of three measures than in the original studies. In general, therefore, the revised procedures and items reflected the original instruments as closely as the circumstances and aims of the present research would allow. All retained their essential items, procedure and functions. The reliability of all the revised measures was evaluated, with satisfactory outcomes. These were detailed in Chapter 8, and compared favourably with the findings reported in the original articles.

d) Results: The figures below illustrate the diurnal variations for the major element of each measure. Thus, for the BOI Figure 11-1 depicts the level of patient activity, expressed as the mean number of patient activities per observation period. It can be seen that there is a regular rhythm, varying between a mean of 1.2 and 2.7 actions during the fifteen hour day. Meal times (8 a.m., 12 noon, 5.30 p.m.) are active periods, as is the 4-5 period during which the routine observations were made. This indicates that the selected period is one in which there are above average amounts of patient activity. Figure 11-2 shows the mean number of inter-actions during the day, based on data gathered with the SRRS instrument. Again, it can be seen that the 4-5 p.m. period is one in which relatively high activity levels are maintained. This suggests that this period would be representative of the more active part of the ward day. However, this is only relatively so, since these are in fact very low levels of interaction: the figures presented are the means for each period, based on a twenty-five trial record sheet. In no one hour instance were there interactions either between nurse and patient, or between patients that occurred on as much as 50% of observations. This was in the context of a day-room populated with an average of nine patients (see Chapter 12) and with each patient emitting an average of two responses per observation. Finally, Figure 11-3 illustrates the relative proportions of time nurses spend in patient-orientated activities.
Fig: 11-1 Patient activity level during a fifteen hour day on a representative ward. (Behaviour Observation Instrument: BOI).
Mean number of interactions during a fifteen hour period of observation
Mean No. Nurse Activities

Per Obs'n

Fig: 11-3 Nurses' patient oriented activities during fifteen hour day, on a representative ward.
(Attendant Behaviour Checklist: ABCL)
during the day (ABCL measure). There is support for the expectation that these activities are highest during 'structured' or programmed periods such as getting up, meals and bedtime. For the remainder of the day, including the 4-5 period, the graphed data indicate a fairly low level of nurse involvement with the majority of the patients. The 4-5 period is intermediate with respect to the mean number of nurse activities per observation and so there is evidence that it is a representative period of the non-meal parts of the day.

e) Discussion: The results of the day-long observation of a ward with patients representing the middle spectrum of those in the rehabilitation section of the hospital, show that the 4-5 p.m. period selected for observation is representative of the majority of the remainder of the day. The only exceptions are major periods of concerted and programmed activity, namely mealtimes and bedtimes. The BOI data show the patients each to be averaging 2.5 activities per observation during this one hour period, the third highest level of the day. The SRRS indicates a very similar relationship, with interaction levels also third highest of the day. It was emphasised, though, that this was only a relative statement and that in absolute terms little interaction took place. The third observational measure, the ABCL also indicated that nurses were well represented in terms of the mean frequency of their patient-orientated activities. In conclusion, the study indicated that the selected observation period was representative of the more active part of the ward day, excluding those periods of programmed activity such as meals.

STUDY TWO: ASSESSING REACTIVITY
a) Introduction: The second and more difficult aim of this chapter is to evaluate the nature and extent of reactivity caused by the observations. As mentioned earlier, the two most popular methods for this evaluation have been those of 'obtrusiveness' and 'habituation'. The present study combined these in an attempt to assess focal reactivity, that is to determine whether individual behavioural items from the three observation instruments showed any alteration in response to the passage of time or a more conspicuous observer. In keeping with the
findings reported by Pollack (1979) and by Patterson and Harris (1968) it was predicted that reactivity as measured by these two procedures and three instruments would be most pronounced in 'pro-social' categories. These were the following:

i) BOI:-
   - group recreation
   - talking
   - listening
   - grooming others
   - helping in ward

ii) SRRS:-
   - nurse, appropriate, reward

iii) ABCL:-
   - socialization
   - training
   - supervising
   - other patient-orientated

The remaining categories were not expected to alter as a result of the manipulation. The observer was not aware of these hypotheses, only that the aim was to assess reactivity.

An additional aim of this reactivity study was to attempt to obtain data relating to the concurrent validity of the obtained results. For this purpose structured interviews were conducted with nurses and patients. Validation in observational research of this kind has typically been restricted to the 'content' category, that is of simply ascertaining that there exists a relevant series of categories. This is the weakest form of validation (Anastasi, 1976), and it is particularly anaemic where broad categories are utilised (Johnson and Bolstad, 1973). This is the case in the present research, so validation was important.

b) Method

Subjects and Setting: The nurses and patients in this part of the study were observed in a second large psychiatric hospital, 'Towers', also in Leicester. This was dictated mostly by the availability of superior observation facilities, but also by a wish to treat this as a separate study, removed from the body of observations being made at Carlton Hayes Hospital. However, every attempt was made to match the ward with those at Carlton Hayes. The relevant data on these two groups of nurses and patients are presented in Table 11-3 below. It
can be seen that the two samples were very similar with regard to patients and nurses.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Carlton Hayes Hospital</th>
<th>Towers Hospital</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean number of nurses present</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Mean number of patients present</td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td>Observation period</td>
<td>4-5 p.m.</td>
<td>5-6 p.m.</td>
</tr>
<tr>
<td>Patients' main problems (Ranked)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Shopping</td>
<td>Occupation</td>
</tr>
<tr>
<td></td>
<td>Occupation</td>
<td>Shopping</td>
</tr>
<tr>
<td></td>
<td>Health and Hygiene</td>
<td>Domestic</td>
</tr>
<tr>
<td></td>
<td>(PPBI Groups 4, 5 and 6)</td>
<td>(PPBI Groups 3-7)</td>
</tr>
<tr>
<td>Patients' diagnosis (CHH: based on random sample)</td>
<td>Schizophrenia (54%)</td>
<td>Schizophrenia (42%)</td>
</tr>
<tr>
<td></td>
<td>Dementia (29%)</td>
<td>Depression (38%)</td>
</tr>
<tr>
<td></td>
<td>Depression (11%)</td>
<td></td>
</tr>
<tr>
<td>Nurses' mean service experience</td>
<td>11 years</td>
<td>14 years</td>
</tr>
<tr>
<td>Nurses' qualifications</td>
<td>100% RMN</td>
<td>80% RMN</td>
</tr>
<tr>
<td>Nurses' mean age</td>
<td>35 years</td>
<td>35 years</td>
</tr>
</tbody>
</table>

Table 11-3: Patient and nurse data from the three wards observed at Carlton Hayes and the one ward at Towers Hospital.

The sixteen patients available for interview at Towers were administered the orientation section of the CAPE (Clifton Assessment Procedure for the Elderly, Pattie and Gilleard, 1975). Two of these patients' scores fell within the 'organic' range, and they were therefore excluded from the interview, since their disorientation precluded reliable and valid responses.

Materials: The three observation instruments used were the Behaviour Observation Instrument (BOI, Alevizos et. al., 1978), the Social Reinforcement Rating Scale (SRRS, Gelfand et. al., 1967), and the Attendant Behaviour Checklist (ABCL, Gardner and Giampa, 1971). All three have been outlined above. The dependability data presented in Table 8-3, Chapter 8 indicated that they were reliable measures of
patient activities, nurse-patient interactions and nurse activities, respectively.

The nurses' office at Towers afforded a view of both day-rooms and therefore facilitated observation from a position of relative unobtrusiveness. It was customary for nurses and other staff to occasionally sit in this office. There was a lace curtain and window between the rest of the ward and the office.

c) Procedure: The initial and second baseline series of observations were conducted from the nurses' office. The first four observation periods were treated as a piloting phase and the data discarded. The reason for it being four periods were largely practical, relating to the observer becoming accustomed to the setting and its new requirements. These included alternate sampling from each day-room, and a need to restrict observations more to what could be seen rather than heard. For one observation period (i.e. day) patients and nurses in day-room one would be observed, and for the next period the second day-room people would be observed. This procedure maximised balanced sampling over time. During the experimental, 'obtrusive' phase the observer similarly alternated her position from one day-room to the other with each new period, retaining the same criteria as for the office phase. Both the rooms were therefore sampled equally in the experimental phase. The period 5-6 p.m. was determined by the nurses, as it was a time when they were least frequently using their office. It was comparable to the Carlton Hayes wards in so far as no structured activities were programmed.

The observer was an undergraduate psychology student who had made a large number of observations in the Carlton Hayes wards and whose inter-rater reliability was very adequate. A repeat 'calibration' reliability check was carried out once with the author, midway through the present experiment, and was again found to be adequate for all three measures (i.e. greater than 70% perfect agreement).

Each observation period consisted of the respective completion of BOI, ABCL and SRRS during weekdays between 5 and 6 p.m. The procedure

* Amanda Hodd
was identical to that used at Carlton Hayes, with the exception mentioned above: only relatively loud and clearly discernable speech and sounds were coded in any phase. This took into account the reduced sound audible from the office and so was intended to minimise recording errors resulting from the different locations of the observer. An equally conservative policy was adopted for other behaviour, since to a lesser extent these were also less observable from the office.

During the two baseline phases these observations were conducted from the nurses' office, whereas during the obtrusion phase the observer sat in the day-rooms in full view of the patients and nurses. The baselines consisted of twelve and thirteen periods, the obtrusion phase represented the middle fourteen periods. In total, this represented eleven hours of data. These were spread over six months representing an average of two observation periods per week.

The patient and staff interviews were conducted following the second baseline phase. Nurses (N = 4 from 5) were asked eleven questions about their awareness of the observer, her possible purpose, and their reactivity. The questions are in Appendix 21. The patients were asked thirteen questions covering the same three topics. All staff interviews and three of the patient ones were carried out by the author, the remainder by the observer.

d) Results: The Mann-Whitney 'U' Test statistic (Seigel, 1956) was used to analyse data from the three observational phases. The BOI baseline comparisons indicated that only two of the twenty-nine categories showed statistically significant changes (walking and sleeping), and both occurred less frequently during the second baseline or 'reversal' phase. Significant experimental (obtrusive) phase increases were also found for 'walking', 'eating meals' and 'solitary recreation' when contrasted with the reversal phase; and with 'walking' and 'sleeping' increases when contrasted with the initial baseline phase. Also, there were significantly more patients present during the obtrusive phase, but no difference between the two baselines.

The ABCL comparisons revealed significant reductions in the 'personal care' category of patient orientated nurse activities between baselines, but no other significant changes between phases for the remaining six categories.

* Behaviour Observation Instrument
1 Attendant Behaviour Checklist
Finally, analyses of the SRRS results indicated significant differences between baselines for two of the thirteen categories, with 'nurse rewards appropriate patient behaviour' showing a decrease, with an increase in uncoded interactions. This latter finding represents a significant decrease in the sum of interactions between nurses and patients. There were no significant changes between the initial baseline and the obtrusion phase, and only one significant change between this phase and the reversal phase. This was again an increase in the uncoded category.

The nurse interview data clearly indicated their awareness of the observer's presence and identity. They were all of the opinion that her presence had no effect on their behaviour, and only one expressed the view that the patients might have 'faked good'. They all stated that the observations were of the patients' behaviour, but two of the nurses suspected that nurses might also have been observed. The patient interviews produced a wider range of replies. Eight identities were suggested for the observer, four patients doing so correctly and the remainder stating that they did not know (N = 3) or offering such professions as Welfare Worker and Policeman. There was greater agreement about the observer's whereabouts when observing, and the majority identified her correctly. There was little awareness of her purpose, only two of the fourteen patients stating that she had been recording behaviour (staff and/or patients). Only two patients said they behaved differently, and then only during the experimental phase of observation. Confirming their general level of awareness, only two patients were able to provide accurate estimates of the duration of observational sessions.

e) Discussion: The results provided no support for the major hypothesis, as pro-social behaviours did not increase as predicted during the obtrusion phase. This could have been interpreted as the lack of reactivity during the baseline phase and/or to the absence of an obtrusion effect. However, the results of the baseline comparisons indicate that there is very little reactivity in the form of habituation to office-based observation, as even with resensitisation of subjects any reactive effects would be expected to diminish over the course of six months. There were also only a very few instances of reactivity to the ward-based phase of observation, suggesting that no obtrusion effect was present.

* Social Reinforcement Rating Scale
The simplest explanation for this is that the office phase was not in fact covert, and is supported by the interview data from both groups. The baseline comparisons indicate that these office phases of observation, although conducted with the awareness of staff and patients, did not have the effect of significantly altering much of their behaviour, although nurses' level of interaction did diminish with time. The overall results support the validity of observational data, and suggest that different degrees of physical obtrusiveness need not be associated with alterations in subjects' behaviour. Additionally, the results indicated that the few effects found were not of the 'faking good' variety but rather of the opposite: for example, increases in patient categories such as sleeping and solitary recreation, and decrease in the nurse category of rewards appropriate behaviour that occurred. One advantage of this apparent observee bias is to reduce the probability of type two errors when the data are used to evaluate, or to enumerate problems.

In conclusion, the present results broadly support findings of minimal and diminishing reactivity to naturalistic observation, (e.g. Nelson et al, 1978; Patterson and Harris, 1968), and provide validation data consistently supporting the observational findings.

The relevance of these findings for the present research are that they indicate that the observational data will not be greatly compromised by dependability flaws: it appears that both nurses and patients are minimally reactive to observations of this kind, and that when they do react they tend to 'fake bad'. This would reduce the likelihood of obtaining positive nurse training effects simply as a result of the observation procedure and hence would make any such findings more robust. The only major exception, reductions in the nurses' interaction levels over time, would not represent a problem to the Carlton Hayes observations since these were calculated as means, over a similar period of time.

The relationship between the Towers reactivity ward and the three Carlton Hayes observation wards appears to be close with respect to nurses and patients, and there seems therefore to be little problem in generalising these findings to Carlton Hayes.
SUMMARY

In the first part of this chapter the question of when to observe was addressed. By taking into account the major 'ecological' interest of the research project and the distribution of nurse and patient behaviours across the fifteen hour waking day, the period 4-5 p.m. was selected. This period was representative of slightly more activity, as measured by the ABCL, SRRS and BOI and had the virtue of being an unstructured part of the ward day.

The second part of the chapter focused on the nature and extent of observee reactivity to the observation procedure. This was assessed by a combination of the two traditional methods of observer obtrusiveness and habituation. Also, concurrent validation was obtained by interview. All data indicated the absence of a clear reactive effect. There were a few unpredicted findings for asocial behaviours. These were generally significantly more pronounced over time (e.g. 'solitary recreation' by patients) indicating a tendency for asocial, 'faking bad' nurse and patient activities to be more frequent or reactive to observation. One major exception was that nurses interacted less over time. In conclusion, these findings suggest that the observational data would provide a conservative and dependable estimate of any nurse training effects.
CHAPTER 12
EXPERIMENT FOUR

"An Expanded Behavioural Analysis of Nurse Training:
Towards Ecological Validity"
ABSTRACT

This chapter concludes the experimental investigations. It focuses on three facets of generalisation, namely the extension of the nurse training effects across settings ("stimulus generalisation"), across behaviours ("response generalisation") and across subjects. These are a corollary of the maintenance findings reported in Chapters 9 and 10.

In considering stimulus generalisation, data are reported on the nurses' care plans (the single-case study 'projects') and on their interactions with patients in the ward. Response generalisation was assessed via the nurses' entries in the clinical case notes, and by naturalistic observation of the activities they were engaged in on the ward. Finally, generalisation across persons was evaluated by a study of the transmission of behavioural skills and knowledge from course 'graduates' to their students, by changes in a random sample of patients, and again by observation, this time of the patients' activities.

The results provided evidence of nurse-training effects in each of these three generalisation dimensions. However, some of these were neither desirable nor predicted, giving substance to the ecological perspective. For example, those nurses who had received the course used more 'inappropriate punishment' than untrained colleagues. Nonetheless, the generalisation findings indicated that overall the nurse training in behaviour therapy had resulted in a number of untargeted but desirable changes. This represented an ecological validation of the nurse training intervention.
1. INTRODUCTION

The results obtained in Experiments 1 and 2 provided unambiguous support for the hypotheses concerning the efficacy of the core course. However, these data were limited to comparisons of baseline and post-training scores, and to a follow-up restricted to 'classroom' measures of knowledge, skill and attitudes. While this degree of evaluation is comprehensive in comparison to the reviewed literature, it was argued in Chapter 8 that this was still insufficient. For example, it did not extend the assessment to other parameters and subjects that would inevitably be differentially affected by the training intervention (Popper, 1963). Also, it did not address the complexity that is logically inherent in such an intervention (Wahler and Fox, 1981). In short, the evaluations in this research so far have not attempted to provide an "ecological validation" (Bernstein, 1982) of the nurse training venture.

In Chapter 8, 'An Ecological Perspective in Behavioural Assessment', it was suggested, following Bernstein's (1982) framework, that the most appropriate behavioural term for this expanded evaluation was 'generalisation'. This term was broadly defined in terms of the extension of training effects beyond the course setting and skills. Specifically delineated were generalisation across time ('maintenance'), space ('stimulus generalisation'), behaviour ('response generalisation') and subjects (Drabman et. al., 1979). Of these maintenance has already been considered in context (Chapters 9 and 10), and it remains to examine the remainder. This will be done consecutively, with the evidence from each of the relevant measures being introduced under each successive generalisation heading.

2. HYPOTHESES

Table 12-1 below provides a summary of the hypotheses relating to each category and measure. Attempting to predict results within an ecological analysis is somewhat inconsistent, given the acknowledgement of unpredictable 'side-effects'. This is further compounded by the paucity of relevant research evaluating such effects. Nonetheless, generating hypotheses based on the probable effects of nurse training at least has the value of highlighting these effects by providing a focus for our attempts at prediction.
<table>
<thead>
<tr>
<th>Type of Generalisation</th>
<th>Measure</th>
<th>Major Hypothesis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Across Settings ('Stimulus Generalisation')</td>
<td>Plan Observation (Social Reinforcement Rating Scale - SRRS)</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Across Behaviours ('Response Generalisation')</td>
<td>Observations (Attendant Behaviour Checklist - ABCL)</td>
<td>x</td>
</tr>
<tr>
<td></td>
<td>Clinical Case Notes</td>
<td>x</td>
</tr>
<tr>
<td>Across Subjects</td>
<td>Students Psychiatric Patient Behaviour Inventory (PPEI)</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Observations (Behaviour Observation Instrument - BOI)</td>
<td>x</td>
</tr>
</tbody>
</table>

Table 12-1: A Summary of the Predictions Associated with Three Generalisation Categories and Their Related Measures.

Each of the seven measures listed in the Table has an associated major hypothesis, with a tick or cross indicating the predicted direction of outcome. One broad basis for these predictions was the assumption that proximity to setting conditions, such as the discriminative stimuli associated with the trainer or classroom, would be positively correlated with training impact. Thus, measures furthest removed from the training context and experience such as the three unstructured observation instruments (BOI, SRRS, ABCL), would not be expected to show a training effect comparable to that obtained with focused, proximal measures such as the students' assessment. A second and more empirical basis for these predictions is the available literature. For example, Gelfand et. al. (1967) using the SRRS found that nurses tended to reward inappropriate behaviour, and Alevizos et. al., (1978) reported very low levels of social interaction items on the BOI. These 'baserates' are strengthened by the general non-reactivity of long-stay psychiatric staff and patients (Chapter 11).
Although these levels can be altered, the input required to produce significant amounts of change was not closely approximated in the present research. Thus, Watson et. al.'s (1972) dramatic improvements in the proportion of time allocated to patients by newly trained nurses is unlikely to be replicated here.

On the same argument of 'distance' from training, predictions of the significant generalisation effect could be made for the case notes and the PPBI. The argument for both is that the changes that these measures would reflect were not programmed, nor were any indications given that might have promoted reactivity such as the 'faking good' or measurement bias varieties.

However, notwithstanding these 'major' hypotheses, it is possible to predict 'minor', contrary findings or trends. In the case of the 'unstructured' observations these would consist of at least marked trends towards more frequent and appropriate interactions with patients (ABCL, SRRS) and these would be complemented by modest and limited increases in the 'social participation' and other adaptive behaviours with decreases in the asocial categories such as 'unusual or maladaptive behaviour'. as measured on the BOI. Also, it could be anticipated that the nursing notes would at least become less subjective, if not more objective, such that the more extreme 'fuzzies' became less frequent. Finally, although some of the patient behaviours as listed in the PPBI would coincide with excess and deficit problems successfully targeted in the nurses' projects, the discrepancy between the sample sizes (N and items) would probably reduce the overall effect so as to show no generalisation effect.
a) Introduction: The general focus in assessing stimulus generalisation is upon the occurrence of classroom-trained skills in the ward setting. This extension of training effects is perhaps the most fundamental evaluation of an intervention, since a failure to produce this effect would represent a major constraint on the utility of the training. Although it could be argued that other effects might result from the training, such as an improvement in staff morale or a reduction in perceived work stress, it is unlikely that this would satisfy either the course 'sponsors', such as the Nursing Officers, or would justify the continuation of the course, since other interventions might achieve these outcomes more effectively and economically.

In order to determine whether any stimulus generalisation effects were present following the nurse-training, two measures were used. These were a comparison of the nurses' ability to write a care-plan (or 'project') in the classroom and on the ward; and a naturalistic observation of the interactions of 'trained' and 'untrained' nurses with patients on the ward.

If it was found that their plans were of an equivalent standard in both settings, and that the interactions of the 'trained' nurses were more 'appropriate', then this would represent evidence of stimulus generalisation.

b) Subjects: The subjects for this investigation were drawn from the experimental groups of Experiments 1 and 2 (N = 65). Their demographic and core course data are reported in Chapters 9 and 10, as are the results of statistical analyses, which show them to be similar to a control group (N = 18) on these criteria.

c) Apparatus and Materials: The manuals and record sheets for the plan and the Social Reinforcement Rating Scale (SRRS) are appended (5 and 10 respectively).

d) Procedure: A 'nursing care' or 'project' plan was requested from each nurse attending the Experiment 1 core course (N = 41). They were informed that it represented the basis for the continuation of the course into the ward setting. Experiment 2 subjects were excluded from
this aspect of the study since their plan was integrated with ward experience, so confounding this kind of generalisation. Comparisons were then made between similar items from the course and plan assessments. In total only twelve nurses provided complete data, so they served as subjects. These items were the Functional Analysis (FA) and Formulation and Treatment Plan (FTP) classroom tests. Specifically, the items concerned were:

(i) Defining a problem behaviour (FA, category one)
(ii) Relating it to antecedents and consequences i.e. 'formulating' FA and FTP (categories 3 and 4 from former, 1 from latter)
(iii) Working out a behavioural approach or 'plan' to altering the problem (category 2, FTP)

These three items were compared with their parallel items, 2, 4 and 7, respectively, from the plan record sheet (Appendix 5).

Nurse:Patient Interactions: The procedure for the administration of the Social Reinforcement Rating Scale (SRRS) is detailed in the appended manual and in the previous chapter. A comparison was made between the amount of training and the quality of interaction with the patients. The amount of training was noted on the top of the record sheet by circling 'none', 'core course' or 'course plus project'. These were the three training grades as regards behaviour therapy. In the analysis, however, they were regarded as either 'untrained' or 'trained' (core course or course and project). Observations began midway through the series of ten courses, thus allowing direct comparisons between nurses of equivalent nursing experience and qualifications but with different amounts of behaviour therapy training. Evidence indicating their equivalence is provided by the non-significant differences in demographic and baseline data reported in Chapter 10, representing core courses 1-6 (Experiment 1) versus the remainder (Experiment 2). The observations continued until the final course, and the overall totals are presented in Table 12-2.
<table>
<thead>
<tr>
<th>Observational Measure</th>
<th>Number of Observation Sessions</th>
<th>Number of Intervals Per Session</th>
<th>Total Duration of all Observation Sessions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Reinforcement Rating Scale (SRRS): Interactions</td>
<td>67</td>
<td>25</td>
<td>14 hours</td>
</tr>
<tr>
<td>Attendant Behaviour Checklist (ABCL): Nurses' activities</td>
<td>67</td>
<td>25</td>
<td>14 hours</td>
</tr>
<tr>
<td>Behaviour Observation Instrument (BOI): Patients' activities</td>
<td>132</td>
<td>Determined by the number of patients present</td>
<td>Approx. 13 hours</td>
</tr>
</tbody>
</table>

Table 12-2: The Number of Observation Sessions and Total Duration Periods for Each Measure

The observations were conducted on three wards. They were selected so as to reduce the time required to adequately sample all rehabilitation wards, and they represented the full spectrum of patients on these wards, being the 'top', 'middle' and 'bottom' wards defined in terms of the Psychiatric Patient Behaviour Inventory (PPBI)-based allocation of patients.

Some thirty of the original sixty-five nurses in the sample were based on these three wards. Unlike the patients, the nurses allocation to these wards was not known to be as systematically biased, and they were therefore regarded as a representative cross-section of all the trained nurses. The physical structure and location of these three wards was also representative of all rehabilitation wards.

Days and times of observation were randomised across the three wards, within the limitations of the 4-5 p.m. period, so as to minimise any reactive effects attributable to regular, predictable observation sessions.

e) Results:

(i) Plan: The three categories represented in classroom (Functional Analysis Formulation and Treatment Plan) and ward (project plan) are plotted on the abscissa of Figure 12-1. It can be seen that the first of these categories, 'defining', has the highest overall scores. 'Formulating', the second category, has the lowest scores. In all three categories the ward scores are higher than the classroom ones. This indicates successful stimulus generalisation: skills taught in the
classroom are being demonstrated in the ward setting. Statistical analysis (Wilcoxon Matched Pairs, Signed Ranks Test) indicated that all three category scores were significantly greater during the ward phase \( (p \leq 0.05) \). Means and standard deviations are provided in Appendix 25.

(ii) Social Reinforcement Rating Scale (SRRS): The results from the observation of the qualitative aspects of nurse-patient interactions are given in Figures 12-2, 12-3 and 12-4 below. They are based on all three wards, considered together. All of these three figures depict the relationship between the 'appropriate' or 'inappropriate' use of the three types of consequence, and whether or not behaviour therapy training was received. Figure 12-2 is concerned with the 'reward' consequence, 12-3 with 'punishment' and 12-4 with 'ignore'. Means and standard deviations are reported in Appendix 22. All figures in this chapter that portray observational data make use of mean frequency on the ordinate. This is calculated by dividing the observed frequency by the number of observational sessions. It would have been more interesting and also consistent with the rest of the thesis, to have provided a percent score. However, this was not possible for two of the measures (BOI and ABCL) since the denominator did not have a fixed value. In contrast, it was fixed for the SRRS and in this case a proportion figure could have been calculated. But for the sake of consistency across observational instruments and results, all graphs present simply mean frequency. Where appropriate, percentages are given in the text.

Figure 12-2 shows that the first of these consequences, reward, is used appropriately far more often than inappropriately, and that the mean frequency of the former represents its occurrence on 9% of possible occasions (i.e. of the twenty-five observational intervals per observation). Statistical analysis (Mann-Whitney 'U' Test) indicated that there were no significant differences between the trained and untrained groups in their use of the reward consequence or in the number of nurses sampled in each group. Figure 12-3, in contrast to 12-2, shows the relatively low frequency with which the observed nurses made use of the punishment consequence. The overall proportion was only 1% of possible occasions. Again, there were no statistically significant differences between trained and untrained groups in their relative use of punishment. Lastly, Figure 12-4 shows that the ignore consequence is also rarely utilised (2%), and again that there is little difference between appropriate or inappropriate usage. There was no statistically significant difference between the two nurse groups.
Stimulus generalization data derived from classroom and ward assessments (N = 12).
Figure 12-2

Use of the 'reward' consequence by nurses with different amounts of behaviour therapy training, based on 67 observational sessions.
Figure 12 - 3 Use of the 'punishment' consequence by nurses with different amounts of behaviour therapy training, based on 67 observational sessions.
Mean frequency

\[
n = \text{NO B.T. TRAINING} \\
\text{CORE OR CORE & PROJECT}
\]

Figure 12 - 4 Use of the 'ignore' consequence by nurses with different amounts of behaviour therapy training, based on 67 observational sessions.
f) Discussion: These results provide evidence that supports the major prediction that stimulus generalisation would occur in the case of the project plan but not with the unstructured interactions, reflected in the SRRS data. The minor prediction of a trend towards more appropriate interaction patterns amongst the trained nurses was not supported.

The interaction proportions are very different from those reported by Gelfand et al. (1967), whose study of six psychiatric patients indicated far higher rates of interaction. For example, the patients' appropriate behaviour was rewarded on 61% of observed occasions. 'Punishment' was the least frequently used consequence (5% for appropriate, 8% for inappropriate patient behaviour) with 'ignored' intermediate (34% appropriate, 66% inappropriate patient behaviour). The rankings are therefore identical, but the frequencies very different. It is possible that relatively high nurse-patient ratios or the prevailing philosophy of care were prime determinants. However, the authors only state that the hospital was "adequately staffed" (p.202) and that the philosophy was traditional and psychodynamic, thus making detailed comparisons of these determinants impossible. It seems very likely, though, that the ratio was substantially greater than in the present study, since in the latter 'emergency' levels were in operation i.e. two or less nurses per ward of thirty patients (see Chapter 1 for details). Early studies reported a positive relationship between nursing numbers and interactions with patients, up to a maximum of five nurses (Kandler, et al., 1952). Over this number the nurses tended to interact more with one another. Hargreaves (1969) reported that up to ten nursing staff were on duty during the day shifts in his observation setting, but that their numbers were not clearly related to rates of interaction with patients. He elaborated several reasons for this unlikely finding, including an increased air of 'businesslike activity' during these shifts. In contrast the evening shifts, typically involving 'only' four nurses, had comparable rates of interaction in a work programme that fostered patient contact.

It is therefore parsimonious to view interaction rates as multi-determined. The most likely prime determinants in the present study were very low staff numbers and the designation of the setting (time and place particularly) as a patients' dayroom. That is, as a place primarily for their use and not intended for nurse organised interactions. Of course, the low frequency of interactions, however determined, only increases the clinical significance of their quality.
For example, it represents a high response to reinforcement intermittent schedule, which can be expected to maintain persistent and inappropriate behaviour (Bandura and Walters, 1963), under the present contingency of poor differential use of consequences.
STUDY TWO: 'RESPONSE GENERALISATION'

a) Introduction: This second investigation continues our study of the nurse training effects present in the ward. In contrast to stimulus generalisation, the finding of new behaviours that are attributable to training can be regarded as a 'bonus'. However, it is a very important bonus, because, like generalisation across settings it plays a fundamental part in the success of a nurse-training intervention. For one thing it reduces the amount of training required, since 'core' skills or knowledge may prove to be an adequate basis for the development of a more elaborate repertoire. In the absence of such generalisation every single problem presented to nurses by their patients would have to be covered in the training.

In order to assess this important dimension of change two measures were taken. The first was a naturalistic observation of the nurses' activities, that is, of how they allocated their time while in the patients' day room. This was recorded using the Attendant Behaviour Checklist (ABCL), as described in Chapter 11. A comparison was made between 'trained' and 'untrained' nurses (those who had not yet attended the course), in the same manner as in the preceding observational study.

The same comparison was made in the case of the second measure, the clinical case notes. These are a compilation of all information and records on individual patients, including the results of tests, specialists' reports, and the daily entries made by the nurses. The focus of the present enquiry was the latter kind of information, and specifically on the nurses' descriptions of patient behaviour. This was extracted for a group of nurses six months before and after attending the course, and comparisons were made of their descriptions at these two points in time.

These two measures therefore offered evidence on whether the course was having any impact on how nurses allocated their time with patients and on their descriptions of patient behaviour. As neither of these was a goal of the course they were regarded as indications of response generalisation.
b) Subjects: The subjects for the observational component (ABCL) were as for Study One (N=30) on three wards. Those who served for the survey of the clinical case notes were all experimental group nurses associated with a randomly selected group of forty patients. The details of this group of patients is given in Study Three, under the PPBI. Of these forty patients, thirty-eight were still in the hospital at the time of the survey and their notes were therefore readily available. In these thirty-eight patients' notes, fifty-three of the experimental group of nurses (82%) had made at least one entry. These two groups therefore provided the sample. All seven rehabilitation wards were surveyed in this manner within a two month period prior to the final series of core courses (Experiment Two).

c) Apparatus and Materials: The manual and record sheets for the Attendant Behaviour Checklist (ABCL) are in Appendix 11. Scoring of the case notes was based on the first category from the Functional Analysis Test (FA) 'defining behaviour'. The manual is in Appendix 8.

d) Procedure: The unstructured observations were conducted in the same manner as in Study One. Unlike the original publication (Gardner and Giampa, 1971), no attempt was made to follow nurses around the ward. They were simply observed when visible to the observer, who was seated in the dayroom of the given ward. This procedure therefore excluded observation of most non-patient (administrative) activities, and so these are not considered in detail here.

The case notes were obtained from each of the wards in turn for the thirty-eight patients. No explanation was given to nurses on the reason for removing these notes. They were simply told that the psychologist wanted to have a look at them. On no occasion did a nurse seek further information. As with all other assessments, the senior nurses (the D.N.O. and Nursing Officers) were appraised of the purpose of the notes survey.

Once the notes were obtained, the author and two undergraduate psychology students classified the entries. Inter-rater reliability, expressed in terms of percent exact agreement, was 91% overall with a range from 85% to 95% across the three pairs of raters. All raters had
previous experience of scoring the Functional Analysis (FA) category on which this assessment was based, and it was therefore not surprising that agreement was very satisfactory.

Each patient's notes were studied so that baseline and post-training entries could be extracted for each nurse. For example, nurses attending the course in June, 1981 had their entries for the period January to June (baseline) and July to December (post-test) considered. In this fashion it was possible to summarise a list of the kinds of entries made by these individual nurses before and after their attendance of the core course. This within-group comparison focused on routine entries concerned with the behaviour of their patients. In addition, a sample of twenty-four nurses were surveyed across the same period so as to provide a control group. These nurses were mostly the experimental group for Experiment Two at least six months prior to their attendance on a course. The remainder were composed of other qualified staff who did not attend a course because they left the hospital during the training period. There was no reason for assuming this control group to be atypical of the pool of qualified nurses included in this study.

e) Results: The findings from the ABCL observation instrument are summarised in Figure 12-5 below, in terms of the five patient-orientated behaviour categories. The graph indicates that the most frequent items are 'patient training' and 'patient socialisation'. The least frequent item is 'supervision'. The trained and untrained nurse groups can be seen to differ most markedly on the 'training' item. However, statistical analysis indicates that this is not significant (Mann-Whitney 'U' Test), nor are any of the other item and group comparisons. Also, there was no significant difference between the numbers of staff in each group. (Means and standard deviations in appendix 23).

The very low levels of 'not patient orientated' items, such as 'ward management', reflects the observational procedure of staying in the room where the patients were seated, as opposed to following the nurses, as Gardner and Giampa (1971) had done. It is therefore an artefact of the adopted procedure rather than an accurate depiction of this broad category of activities. In fact, nurses were unobservable
FIGURE 12 - 5  SUMMARY OF THE ABCL PATIENT-ORIENTATED DATA BASED ON BEHAVIOUR THERAPY TRAINEES ( ) AND UNTRAINED NURSES ( ) (67 OBSERVATIONAL SESSIONS)
for the majority of intervals: the sum of patient orientated items for both groups represents 36% of possible intervals, and is based on all nurses on duty. Given that the mean figure was approximately four nurses (both groups), this represents the nurses being away from the body of patients 64% of the observed intervals.

The nursing notes data are presented in Figure 12-6. It can be seen that references to their patients' behaviour represents the minority category, with some 86% of entries being concerned with using behavioural entries such as medication, nursing care, outings and activities. The remaining 14% are broken down by type of behavioural entry ('subjective' or 'objective'), control or experimental group, and by assessment phase.

Instances of objective entries were:

'Needs prompting to shave'
'Stayed in bed until late morning'
'Said he was tired and lonely'
'Found in bed fully dressed'
'Refused his medication'

Subjective entries included:

'Behaving in a very strange manner'
'Made nuisance of self'
'Demanding and attention seeking'
'Quite disturbed'
'Childish behaviour'
'No Christmas spirit'
'Habits remain faulty'

Other, non-behaviour entries included:

'Remains on leave'
'To see Doctor'
'Attended O.T.'
and medication changes

Figure 12-6 illustrates a marked increase in descriptive, objective entries only for the experimental group, with similar baseline scores between groups. The difference at post-test is statistically significant ($p \leq 0.05$, Mann-Whitney 'U' Test). Also, the experimental group show a definite trend to use fewer subjective, 'fuzzy' entries following training. This was also significant ($p \leq 0.05$, Mann-Whitney 'U' Test). In contrast, the control group show no significant change over the same period. These results indicate an improvement in the
Figure 12-6 Summary of results of nursing case notes study.
quality of the case notes and one that seems to be attributable to the effects of the core course.

f) Discussion: The major hypothesis of no significant response generalisation did not receive full support. The first piece of evidence, the ABCL data did provide support, but there was a marked trend for experimental nurses to exhibit response generalisation in the most relevant category, 'patient training'.

The literature on nurses' activities in relation to psychiatric patients is broadly similar to the results reported above. The general distinction between patient orientated and other activities is made by a number of authors, all of whom found the non-patient activities most frequent. Willems (1972) found the 'idle' category most common (24%), followed by nursing care and hygiene (22%). Cormack (1976) reported that administrative patient record work and discussions with staff were the most common (14%) of twenty-three categories, although talking with individual patients came next (13%). Liberman et al (1976) studied two day centres, finding the mean social interaction rate at baseline was 34%. Hargreaves (1969) reported that the most frequently used category was 'unavailable' (30%), followed by being in conversation with the patient (22%). He reported large individual nurse and patient variations, for example some patients' contact with staff was as low at 2%.

In the original ABCL article by Gardner and Giampa (1971), which was concerned with a mental handicap setting, regular attendants (N = 8) were observed to give most of their time to patient supervision (38%) and personal care (22%). Ward management was almost non-existent, with the 'custodial' category of 'linen management' a close third after the two patient related activities above. In comparison, the 'behaviour modification specialists' or 'engineers' (N = 12), also ward attendants, while still spending most time supervising (22%), spent far more time teaching patients (18%) than did the 'regular' nurses. This finding of increased time devoted to patient training parallels the change found here, with the comparable proportion of 29% being found in the present study. In contrast, the 'supervision' category was rarely observed (1%). As with the qualitative aspect of interactions (SRRS) it is difficult to make precise comparisons and interpretations of these findings. A wide
range of observational procedures, ranging from having staff wear microphones (Hargreaves, 1969) to one-way mirrors (Gardner and Giampa, 1971) and the absence or paucity of descriptive data on patients and nurses makes it difficult to proceed beyond the kind of rough comparisons offered above. These indicate that nurses' most frequent activities are not patient-orientated but are broadly administrative in nature. In parallel, the present findings show that nurses, trained or untrained, are most often (64% of observations) involved in non-patient related activities such as 'leisure' and 'ward management'.

The second source of evidence, the case notes, strongly indicated that response generalisation had occurred.

The range of problems tackled in projects also indicated the existence of response generalisation. Skills not rehearsed or demonstrated on the core course were utilised in projects. The data presented in Chapter 9 and 10 and derived from the project implementation measure, the Behaviour Therapy Proficiency Scale (BTPS), provide evidence of this. For example, problems such as meal preparation, incontinence and absconding were not discussed in any systematic fashion, nor were some of the assessment and treatment techniques. Some of these were not assessed, since they were not targeted as dependent variables of the course. They included one nurse's development of an assessment procedure and record sheet for the whole ward of patients, using colour coding to summarise their areas of need. Two other nurses became authors, one to write a lengthy synthesis of behaviour therapy and the nursing process, and another to re-write the programmed handouts for the course for the benefit of her students.
STUDY THREE: 'GENERALISATION ACROSS SUBJECTS'

a) Introduction: In this third and final study, the focus was on training effects occurring across subjects, or more precisely, from course trained nurses to their colleagues and patients. One term that is used in the literature to refer to one form of subject generalisation is 'pyramid training', in which some form of educational input is transmitted to increasing numbers, from the top of the pyramid downwards (Page et al., 1982).

In this study the 'transmission' was considered in terms of training effects that were occurring at the level of student training, the patients' behaviour on the ward, and their problems as gauged by the Psychiatric Patient Behaviour Inventory (PPBI).

As with the preceding two studies, a combination of research designs were utilised, namely a repeated measures or 'within subjects' approach, and between subjects comparisons. In this way controls were present for the more likely threats to the validity of the results. For example, in the case of the learner nurses a control group was formed from peers assigned to the acute wards at the same point in time. Differences between these groups on measures of pyramid training were therefore most likely to be a consequence of the training they received from their ward Sister or Charge Nurse, since, with respect to the independent variable (the core course training), the learners were randomly assigned across wards and only the qualified nurses on the rehabilitation wards had received the core course.

The importance of this kind of generalisation assessment is profound, and indeed some have argued that such effects as changed in the patients are the only justification for staff training (e.g. Matarazzo, 1978). Although this point will be disputed in the next chapter (in that one could argue that there are other consequences that justify training), it is nonetheless the obvious goal of the intervention and is also essential for the acceptance or 'social validity' of the nurse training scheme (Wolf, 1978).

Two measures of patient change were therefore introduced to assess effects attributable to the staff training, one being based on naturalistic observation of patients' behaviour on the ward and the second being the nurses' checklist record of changes in two hundred and forty-six discrete patient behaviours over baseline
and training periods. The latter measure was the Psychiatric Patient Behaviour Inventory (PPBI) outlined in Chapter 3.

b) Subjects and Design

(i) Nurses: The experimental group was composed of student nurses allocated to the rehabilitation wards of the hospital during the period following the training of most of the qualified staff (January to March, 1982). They were asked to attend for an assessment related to some research going on in the hospital, and came on a voluntary basis. An offer of results feedback and teaching was made by way of reciprocity. In total sixteen students attended the baseline assessment and ten the post-testing at the close of their placement, three months later. They were drawn from all seven rehabilitation wards.

The control group were also all students, but were placed in the acute section of the same hospital during the same period. They were solicited in the same manner as the experimental group. Eleven attended for assessment at the baseline stage, thirteen at the post-test three months later. As with the experimental group, all wards were represented (N = 4).

In total, therefore, there were fifty student assessments, including both phases and groups. Only a minority of these assessments were repeats, with five of the experimental and two of the control group being tested at the beginning and end of their placements. This low figure was a result of the individual programme of student allocations, since no single starting or finishing data was common to more than a few other nurses, and then they were from different wards.

(ii) Patients: The subjects for this assessment were a randomly selected group of forty patients from amongst the two hundred and fifty on the seven rehabilitation wards. There were at least five patients from each of these wards, and hence the full spectrum of problems was sampled. A description of this group is provided below, in Table 12-3.
<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td>60% female</td>
<td>-</td>
</tr>
<tr>
<td>Age</td>
<td>65 years</td>
<td>14.5</td>
</tr>
<tr>
<td>Previous Admissions</td>
<td>1</td>
<td>0.7</td>
</tr>
<tr>
<td>Duration of Current Admission</td>
<td>17.3 years</td>
<td>15.9</td>
</tr>
<tr>
<td>Diagnosis:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) Schizophrenia</td>
<td>54%</td>
<td>-</td>
</tr>
<tr>
<td>b) Dementia</td>
<td>29%</td>
<td>-</td>
</tr>
<tr>
<td>c) Depression</td>
<td>11%</td>
<td>-</td>
</tr>
<tr>
<td>d) No diagnosis</td>
<td>9%</td>
<td>-</td>
</tr>
<tr>
<td>e) Personality disorder</td>
<td>3%</td>
<td>-</td>
</tr>
<tr>
<td>f) Subnormal</td>
<td>3%</td>
<td>-</td>
</tr>
</tbody>
</table>

Table 12-3: Characteristics of the Random Sample of Forty Patients Assessed on the PPBI. All PPBI Groups (Thirteen) and Wards (Seven) Were Represented in the Sample.

The diagnoses in Table 12-3 above are very similar in rank order to the national proportions for first admissions (D.H.S.S., 1980). These are ordered from most to least common: schizophrenia, depression, dementia, other psychoses, neuroses. Personality disorder and mental handicap are ranked eighth and ninth. Data on the national prevalence of these diagnoses for resident patients, as opposed to admissions or discharges, were not reported in the document. It therefore seems that the current sample is similar in composition to the national population, at least in the admission - resident comparison. There were no available data on the existing national in-patient populations.

The above percentages exceed 100% as in some cases more than one diagnosis was made.

* Psychiatric Patient Behaviour Inventory
(iii) Behaviour Observation Instrument (BOI): Finally, the subjects for this third unstructured ward observation were those patients who attended the dayrooms of the three selected wards during the period four to five p.m. on the days observed. The mean attendance for each ward is given below, in Table 12-3, together with the standard deviation.

<table>
<thead>
<tr>
<th>Ward</th>
<th>Mean No. Patients</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>8.0</td>
<td>3.2</td>
</tr>
<tr>
<td>2</td>
<td>11.9</td>
<td>4.9</td>
</tr>
<tr>
<td>3</td>
<td>9.9</td>
<td>4.1</td>
</tr>
</tbody>
</table>

Table 12-4: Number of Patients in Each Ward Dayroom on the Observed Days.

In total, two hundred and eleven observational sessions were conducted on these wards.

c) Apparatus and Materials

(i) The assessment of the student nurses utilised three measures from the core course, the Knowledge of Behavioural Principles Questionnaire (KBPQ), Functional Analysis Test (FA) and the Attitude to Treatment Questionnaire (ATQ). All have been described in preceding chapters (6, 7 and 5 respectively). In addition, the students were asked to make a rating of their current use of behaviour therapy.

(ii) The PPEI was outlined in Chapter 3. It consists of two hundred and forty seven behavioural items spanning the full range of problems occurring in psychiatric rehabilitation.

(iii) The BOI has also been discussed previously, in Chapter 8. It is a list of patient activities, including smoking, eating, sitting, solitary recreation and so on. These are combined in Figure 12-8 following the six broader categories established by Alevizos et. al. (1978) in their manual (p.4). The categories include 'social participation', based on five sub-categories and 'unusual or
maladaptive behaviour' (three sub-categories).

d) Procedure
(i) Student nurses were approached directly and via their tutors and seniors with a request to assist in some research going on in the hospital. Their participation was voluntary, although in practice available students were detailed to attend by their seniors. They were assessed following the core course format, more fully described in Chapter 10. This begins with the KBFQ test, and is followed by the ATQ then FA measures. The protocols were precisely those as for assessing the qualified staff (Chapters 9 and 10). Also, and as with their seniors, all assessments were conducted in the Nurse Teaching Unit of the hospital. Efforts were made to have the same nurses attend both baseline and post-test assessments, at the beginning and end of their three month ward placements. However, as stated in the subjects' section, this proved difficult and so the majority of subjects were only assessed once. There were several test sessions, attended by small groups of students. Some of these were being tested at the start (defined as being within four weeks of placement on the new ward) and some at the end (also within four weeks) of their period on either a rehabilitation or acute admission ward. The allocation of subjects therefore approximated to a Solomon Four Group Design. On the other hand, there was no apparent basis for assuming the attendance of subjects to be anything other than consequent upon the allocation system. They could therefore be regarded as random groups with respect to the aim of assessment. Further evidence for this was provided by a comparison of the scores obtained by repeated versus single assessment subjects: scores from baseline and post-test phases were not obviously different for these two groups, although there were too few subjects for statistical analysis.

(ii) The procedure for the random sample of patients was to request repeated PPBI assessments from the nurses. As for the original survey, reported in Chapter 3, those nurses who were most familiar with the patients' abilities went through the PPBI noting whether or not the given patient was or was not able to carry out the specified action (e.g. 'walking down stairs unaided'). The PPBI was completed in this way for the available sample of thirty-five patients at three different
points in time. The first point was the initial baseline, for all two hundred and fifty patients in the rehabilitation wards. The second was prior to their re-warding one year later, so as to create more problem-homogenous ward groups; and the third was six months later, following the nurse training endeavour. The nurses were unaware of the present reason for re-assessing the sample.

In order to estimate the extent to which the various ongoing treatments might be effecting the sample; psychiatrists were asked to complete a record sheet for each of these patients. The record sheet requested information on whether the patient's diagnosis or medication (or other treatments) had altered between the second and third PPBI administrations, and whether, in that psychiatrist's opinion, the patient's behaviour had altered as a result. If they considered that it had, they were asked to specify the change in terms of the PPBI items and the direction of such change. For example, a psychiatrist might then have stated that patient 'a' had received an increase in medication 'b' with a resultant increase in PPBI item 'c' during the specified six month period. This assessment was conducted once, with the generous assistance of the four Psychiatric Registrars who between them covered the patient sample. They were the medical staff with the greatest awareness of their patients' treatment and condition.

(iii) The procedure for the administration of the BOI was similar to that for the other two unstructured observation instruments in that the observer sat in the dayroom of the ward and noted what occurred in terms of the items present in the measure. The details of the intervals, wards and behaviours sampled are presented in Chapter 11, and the BOI manual and record sheet are appended (Appendix 12).

§) Results

(i) The Learners' Assessment: The data derived from the administration of the three measures are presented in Figure 12-7 below, together with the use of behaviour therapy rating. All measures are standardised to mean percent scores. It can be seen that at baseline the control group (acute wards) score more highly than the experimental group on the skill (FA) measure. Statistical
Figure 12 - 7 A comparison of learner nurses scores on behavioural tests at the start and end of three month ward placements.
analysis, with the Mann-Whitney 'U' Test, indicates that there is no statistically significant difference between the groups in the case of any of these baseline measures. Means and standard deviations are given in Appendix 27.

By post-testing, three months later, the experimental (rehabilitation wards) group scores indicated marked improvements in the three non-attitude dimensions. The control group show an increase only in their rating of behaviour therapy use. Statistical analysis within groups (Wilcoxon Matched Pairs, Signed-Ranks) indicated that there was only one significant baseline to post-placement change. This was for the experimental group, who scored significantly (p<0.05) higher at post-testing on the skill measure (FA). In the case of the control group there were no significant changes. A between groups comparison (Mann-Whitney 'U' Test) at the post-placement testing indicated another significant difference favouring the experimental group. This was found for the knowledge measure (KBPQ). Therefore, for these two initially criterion matched groups, findings indicate that:-

a) Relative to a control group, students on the rehabilitation wards develop a superior knowledge of behaviour therapy; and that relative to their own baseline scores they also develop their observational skills.

b) Students on the control wards (acute) show no significant improvements in these areas.

c) All students rate themselves as making considerable use of behaviour therapy at the start and close of their placement, and that this does not alter during the placement.

d) Finally, no attitude change occurs during the placement for either group.

(ii) Psychiatric Patient Behaviour Inventory (PPBI): The three phases that were compared were baseline, re-warding and training. The same thirty-five subjects were considered throughout, five of the original sample being unavailable for assessment because of death or discharge. The Wilcoxon Matched-Pairs, Signed-Ranks Test was used to indicate
statistically significant differences between phases. One difference was found between baseline and the second phase, re-warding. This was in the 'symptomatic behaviour' category of the PPBI. The change represented a significant decrease in the forty-three symptomatic items. Between baseline and the training phase there were four significant changes, in the categories of 'mobility', 'dressing', 'domestic work' and 'financial'. This indicated a reduction in problems associated with mobility, but increased problems observed in the remaining categories. Finally, one significant difference was found between re-warding and training phases, being an increase in the problems subsumed under the 'personal cleanliness' category. In summary, therefore, there were few significant changes (14% of categories) over the two year period. Of these, half (three) represented improvements in patients' functioning, and the other half signified they were less able. On balance, then, there was little evidence of any directional change.

The psychiatrists' ratings of thirty-one of these patients supported these findings, with 'no change' being stated in the majority of cases (66%) with seven patients rated as improved (25%) in an average of only 1.5 of the two hundred and forty-six PPBI items. Also corroborating this lack of any substantial change were the four psychiatrists' reports of treatment: in the majority of patient cases (75%) no change had occurred. In the remainder, alterations in dosage (N = 2) or type of drugs (N = 4) or E.C.T. (N = 1) were introduced. These details concurred with the psychiatrists' global opinion that little systematic change had taken place in their patients' condition during this period.

(iii) Behaviour Observation Instrument (BOI): Figure 12-8 below illustrates the BOI data by the six broad patient activities. With two exceptions, the patients in the presence of behaviourally trained nurses exhibit more of the given behaviours. This includes both adaptive, appropriate activities such as 'social participation' and the less appropriate behaviours subsumed under categories such as 'unusual or maladaptive behaviour' and 'asocial activity'. There is therefore no clear trend for either group of nurses to be associated with different amounts of appropriate patient behaviour. The only indication is that the trained group are associated with an overall increase in patient behaviour. However, this is not statistically
FIG 12 - 8 Results of the Behaviour Observation Instrument (BOI) analysis by nurse training. The original 21 items have been grouped under 6 broad behaviour categories. Based on 132 observational sessions.
significant (Mann Whitney 'U' Test). Analysis of the thirty individual behaviour categories using the same statistic indicated no differences across all wards, but some differences in individual wards. Ward 1 trained nurses were associated with significantly more 'solitary recreation', 'talking to staff' and 'listening to patient' activities. Ward 2 behaviourally trained nurses' patients exhibited significantly less 'group recreation'. Ward 3 patients showed significantly more 'chewing' and 'solitary recreation' in association with this group of nurses. There were no significant differences between the numbers of nursing staff in each group. Means and standard deviations are given in Appendix 24.

The overall picture emerging from the analysis of these individual behaviour categories is one of few differences associated with the nurses' group and a confirmation of the equivocal results obtained in the earlier, six category summary. There is, in conclusion, little indication of systematic changes in patients' behaviour related to the amount of training nurses have in behaviour therapy, as studied here.

The obtained results are similar in rank and magnitude to the original study (Alevizos et al., 1978). They also reported that the asocial category was most common amongst a ward of forty chronic psychiatric female patients (67%), with social participation least frequently observed (3.5%). The relative mean percentages for both groups in the present research were, respectively, 60% and 10%. In contrast, these authors reported substantially different data for a less traditional hospital setting, with a large behaviourally based treatment programme. This involved patients in activities 85% of their time, and these data indicated that social participation occurred 68%, and non-social behaviour 17%, of the time. Their reversal design allowed them to conclude that the frequency of social interactive behaviour was a direct function of the programming provided by, and for, nursing staff.

One implication of this finding is that the current research might have investigated the effects of more detailed programming. Although efforts were made to provide a general programme direction, as for example in arranging problem homogenous groups, standard record sheets and projects, the programme details were left to the individual
nurses. It might have been the case that had more pin-pointing of short-term ward objectives been agreed upon then different data would have arisen (Steger et al., 1981). For example, by selecting a subset of patients for some regular activity and building this into a monthly timetable.

f) Discussion: The three measures considered to be evaluating generalisation across subjects provided support for the major hypotheses. The rehabilitation students achieved significant improvements in knowledge and skill in comparison to their own baseline (FA) and the control group (KBPQ). The absence of an attitude change is consistent with both the results derived from their seniors, reported in Chapters 9 and 10, and with the directly comparable results reported by Hall (1974). He also found no change on the ATQ over a three-month period on a token economy ward.

The PPBI and BOI data are consistent with the hypothesis of no significant change, the PPBI data being bolstered by psychiatrists' ratings of patient change. There was no clear functional trend in the patients' behaviour, as measured on the BOI, although there was a non-significant tendency for patients associated with trained nurses to produce more behaviour.

An alternative way of depicting these various effects is to take the differences between experimental and control group subjects and transform them to one dimension, percent change. More accurately, since this represents the relative gains (or otherwise) of the experimental group, one can label the difference as 'training impact'. Figure 12-9 illustrates how the impact varies across the unstructured observational data, the case notes, projects and training of students. It is greatest in the latter instance, representing a 70% discrepancy favouring the experimental group of students on the knowledge measure. Impact is least pronounced in the data from the 'unstructured' observations. However, the major objective of the course, the projects, show impacts of 46% (plan) and 58% (skill), indicating the superiority of the experimental group in this area. It also illustrates a targeted consequence of training, in contrast to the learners' data.
Mean percent relative impact of training on experimental and control groups. The blackened part of each section represents the impact.
CONCLUSION

The three studies above all show some clear but circumscribed evidence of generalisation, and in the predicted areas. It seems therefore, that the logic and previous findings used in making these predictions received support. Broadly speaking, the notion of anticipating training effects to be most apparent in areas where such determinants as cues (project plan) and routine duties (case notes, training students) were present therefore appears to be well founded. This supports the arguments for measuring the "brunt" of an intervention (Rachman and Hodgson, 1980). However, these authors also argued against "blob" assessments and in favour of multiple, focused measures. The present findings show that this strategy reveals some unpredictable data, such as were found with the clinical case notes and the increased use of the punishment consequence in the trained group of nurses. In general, though, these findings as a whole indicate that within the limited time scale, evaluations and system considered above, 'ecological' side effects are mostly predictable. However, the occasional exception may be very significant clinically, as in the case of increased use of aversive methods of patient management, such as punishment and time-out, and reduced use of the reward consequence by trained nurses. It is also important to find students who state that they make considerable use of behaviour therapy, improving their skills and knowledge.

One advantage of the type of broad assessment strategy reported here is that the validity of an intervention can be more precisely and confidently ascertained. The probability that the range of raters, measuring instruments, settings and subjects should all conspire to mislead is substantially reduced in comparison to a 'blob' measure, such as a solitary paper and pencil assessment of nurses' attitudes.

It is difficult to argue, however, that the evaluations conducted do more than provide a broad assessment of the more probable consequences of the training intervention. Once cannot argue that other effects were negligible, or even that the observed effects are in some sense dormant. This is explicit in the ecological position. It is therefore not possible to conclude that the major or even majority of effects were assessed, since there were undoubtedly other effects, more or less attributable to the training. For example, one of the more traditional
measures of rehabilitation success, discharge and readmission rates and numbers, also showed marked changes during the period of the intervention. Discharges declined from a mean of 8.6% at the baseline stage (1979-80) through 6.6% (1980-81) to 2.7% (1981-82). Concurrently, readmissions also declined from 1.8% to 0.3%. The first set of data would often be construed as evidence that a programme's effectiveness was declining and the latter that it was more successful, in the sense of avoiding the 'revolving-door' syndrome of discharge and readmission. Such data have serious limitations (Ellsworth, 1968, p. 94), since they reveal nothing of the basis for these events. This includes types of patients and problems, and reasons and facilities for discharge. At Carlton Hayes these data are readily explained by reference to the altered philosophy and practice, which emphasised a more systematic and rational order of things such as readmission. They were therefore invalid as outcome data.

Another argument that can be advanced in favour of this ecological analysis, in addition to the one of enhanced validity outlined above, is that it generates data that are primarily descriptive. That is, baserate or 'normative' data are gathered that depict the things studied. These data can serve as the basis for selecting, monitoring and evaluating interventions, rather than determining a course of action in advance of a clear depiction of 'the problem'. In the present instance such 'problems' included the very low levels of nurse-patient interactions and the equally low levels of knowledge and skill in behavioural techniques. These became clear only on careful observation and enumeration of behaviours in the natural environment.

Other problem areas might become apparent on examination of additional aspects of this environment or by continued observation of existing aspects. For example the physical, psychological and social properties attributed to the ward by patients and nurses has been studied using the Ward Atmosphere Scale (WAS, Moos, 1974). Data from these studies have indicated that problems exist in the discrepancy between the way nurses and patients actually experience the ward and how they would ideally like it to be. Some practical consequences follow from such findings, including the point raised above of increasing the clarity of the ward programme. An attempt was made to administer the WAS at
Carlton Hayes, but this was blocked by the Nursing Unions. The apparent basis for this was their resistance to what was perceived as a purely evaluative exercise sponsored by 'management'.

Another option would be to conduct a 'behaviour setting survey' of the more traditional ecological kind (Barker, 1968). This would consist of a definition of the boundaries of the survey, for example the rehabilitation unit or an individual ward, an identification of the settings that occur within those boundaries, and a continuous descriptive record of what goes on within these settings (Wicker, 1981). Since some of these settings would necessarily involve increased encroachment into nurses' and patients' lives (e.g. what happens in the Nursing Office), it is likely that the Unions would find cause to object. In practice, the present research effectively defined its survey boundaries so as to be acceptable to these groups, but in extending these to incorporate work-related activities as elaborated in the Ward Atmosphere Scale these groups became resistant. This highlights one difficulty that does not seem to be pronounced in the ecological studies of towns such as 'Midwest', where residents are not generally reported to object to observation. However, it does highlight another 'problem', namely how to institute the most acceptable yet adequate form of evaluation. In this sense, certain 'side-effects' of interventions may become inaccessible to the researcher precisely because they are a 'side-effect'.

In conclusion, the ecological analysis affords glimpses of the dynamics of a complex system such as a ward. However, it is not possible for both logical and practical reasons to obtain a truly comprehensive picture of the relationships between parts of the system. The most fruitful compromise appears to be one of assessing the 'brunt' of interventions with as few reactive measures as possible, while still retaining a breadth of indices in keeping with the multiple measures approach. These serve the twofold purpose of pin-pointing problems and maximising the validity of conclusions.
SUMMARY

A series of experiments were conducted to assess the generalisation effects of nurse training. These focussed on generalisation across settings, behaviours and individuals. The measures used were a combination of those previously employed, e.g. the KBPQ, ATQ and FA, and ad hoc ones. Also, there were a range of subjects (students, patients and qualified nurses) assessed in both ward and classroom settings and by nurses, psychologists and psychiatrists. This breadth was consistent with an ecological evaluation, except that the time-scale was in most instances relatively brief (i.e. less than one year). The results provided support for the major hypotheses of generalisation effects attributable to training in each of the three domains. Stimulus generalisation evidence was forthcoming from the nurses' ability to improve their defining and formulating of behaviour, and in planning patient changes between classroom and ward phases. Response generalisation was indicated by significant improvements in the clinical case notes and by a marked trend to spend more time in patient training activities. Generalisation across subjects was established by the finding that students trained by core course graduates did significantly better than other students on the knowledge and skill measures by the close of their three month ward placements. Evidence deriving from the patient inventory (PPBI) and the unstructured observations (BOI) were equivocal.

In sum, the observed changes seem to be evident in different ways from the various perspectives adopted, and together they show that the effects of the course in behaviour therapy extend beyond the classroom. Proximal measures of these effects, such as the students' gains, were mostly predictable (there was one exception, clinical case notes turning out to also be favourably influenced). However, the distal, observational results were less predictable. Although the effects were statistically non-significant, the clinical importance cannot be ignored. For example, trained nurses made greater use of aversive methods of control and less use of reward than did the untrained group.
CHAPTER 13
SUMMARY AND CONCLUSIONS

"Every solution breeds new problems"
(Corollary to Murphy's Law: 
Bloch, 1977: Murphy's Law, 
London: Magnum)
1. INTRODUCTION

The main emphasis in this thesis has been on the gradual synthesis of issues and data from a number of related domains. It is customary to deal with these in isolation, so as to limit the scope of the research. However, the areas of training methods, generalisation, innovation and evaluation which normally constitute separate topics were integrated in this research. This followed from the great onus placed on the 'experimental social innovation' approach, and meant that new problems arising out of earlier solutions had to be incorporated. In this sense the thesis illustrates a developmental progression through these areas. This entailed the 'growth' of the subject matter in concert with the growth in the number of identified independent variables. The intended outcome was a more useful and accurate depiction of the original problem: how to improve services to the patients through nurse training.

To put this in another way, the process of conducting this research reflects much of its content. This reflexivity was to be found in the development of the training course and of its various evaluations.

In this concluding chapter the aim is to provide a summary of the main findings and then move on to a consideration of some issues arising from the research. These issues include the question of behaviour therapy mediators and a reconsideration of the training model.

2. THE MAIN FINDINGS

Two kinds of 'findings' seem to be worth distinguishing, namely those derived from studying the training literature, and those arising from the research itself.

a) The Literature: Perhaps the most striking finding of all is the profound shortcomings in our understanding of learning in this applied setting. This has been compounded by the generally anaemic state of the body of research reviewed in Chapter 4. The unsatisfactory feature of this is that, notwithstanding the contextual constraints outlined in Chapters 1 and 2, there has been little more than an offhand gesture to this topic. For example, the 'normal' minimal standards for
behavioural research were rarely closely approximated, with perhaps only two groups of authors beyond this criticism. The outstanding instance is Paul and Lentz's (1977) comparison of social learning and milieu approaches to rehabilitation.

Ironically, the kind of 'sociopolitical' contingencies described in Chapter 2 were responsible for the untimely closure of this outstanding programme (Stolz, 1981). Empirical examination of the kinds of problems encountered in establishing and monitoring innovatory behavioural programmes is even less well developed than nurse training research, and yet a reflexive use of the concepts and methods of behaviour therapy in this sphere might well result in improved rates of 'innovation survival' (King, 1981). The closing section of this chapter elaborates a model for this analysis, together with some of the important variables influencing innovations within the hospital setting. Perhaps the most salient feature of this model, in contrast to the literature, is the emphasis on antecedent training conditions. That is, to variables that elicit staff training events. The literature rarely outlines these prior conditions for the reported training, which seems unreflexive, particularly when an A-B-C analysis is included in the syllabus. Not surprisingly this omission will lead to unexpected and unexplained programme failures.

This criticism holds for the present research, at least in terms of the initial training experiment. However, once this was analysed from the perspective of an intervention into the hospital system then antecedent conditions were taken into account. For example, these included staff:patient ratios. By the time the series of experiments were completed it was possible to re-read the literature, reconsider the intervention and to refine a model that is the fruit of these labours.

b) Summary of the Main Research Findings: The present research also looked at some aspects of the 'after' phase, that is, the consequences of the nurse training intervention. In many respects these were the most interesting findings, since they were unexpected. To re-phrase, they highlighted problems in our understanding because they falsified our predictions. For example, it was found that despite exemplary proficiency in interacting with patients in the context of the project, this skill was generally absent when routine ward activities were underway.
Such findings suggest the operation of a new set of contingencies, such as pressure of other work demands or priorities. As these influences can shape patients' behaviour too, it was necessary to demonstrate the effects of the initial training in behaviour therapy so as to justify including this element in the interpretation of project and other results. For example, this contrasts with the research of Bailey and Craze (1980) and to some extent the arguments of Matarazzo (1978). These authors have deduced the presence and level of a therapist's training from outcomes with patients. In the present research this training component was clearly demonstrated, in Chapters 9 and 10.

This preceded consideration of the effect that this training had on patients, and in other respects can be justified in distinction from any such effects. For example, it might be cost-effective in terms of such parameters as absenteeism-sickness or 'staff morale', mediated perhaps by the increased understanding and competence they reported in their interviews.

It is in this sense, in tandem with the earlier objections to the calibre of the literature in this area, that generalisations about the futility of nurse-training are regarded as premature. Woods and Cullen (1983), for instance, have argued this conclusion. It may prove more valuable to argue, as has been done regarding psychotherapy outcome (Paul, 1967), that we should examine a variety of training effects, across subjects and goals, and judge and modify the intervention in response to these data.

Thus, for example, the 'feedback' from Experiment 1 suggested an alternative approach in Experiment 2, with altered methods and goals. In Experiment 4 there was an evaluation of these respective formats along a number of parameters. These indicated that unstructured, routine nurse and patient activities and interactions were generally unaffected by the training in behaviour therapy. It was established in Experiment 3 that these observationally-based findings were dependable with respect to reactivity and the period sampled.

However, there were clinically substantial and statistically significant differences between these two training formats as gauged by perhaps the most critical measures, the single-case study project: the second, 'project-centred' teaching approach (Experiment 2) resulted
in comparable proficiency and clinical outcome scores with patients, but was implemented by a far greater proportion of nurses than was the case in the earlier course.

Other findings that illustrated the ecological or 'after' emphasis of the research were the increased objectivity with which nurses from both courses wrote in their clinical case notes about patients, and their 'pyramid' training of learners. These also serve to supplement the earlier argument about the relative value of the different outcomes associated with nurse training, since either or these findings might alone by a worthwhile objective.

3. MAIN CONCLUSIONS

The principle and direct conclusions are best summarised in terms of the findings of each experimental chapter. To avoid repetition, only the main points on staff training will be made. One function of this is to provide a platform for discussing the more general kinds of conclusions, in keeping with the bulk of this chapter.

a) Particular Conclusions: The following conclusions appear to be those of most immediate relevance to this research. They are based on hypotheses erected in Chapters 9 and 10 that were not refuted, and so are presented as if they were 'proven' findings, to simplify matters.

(i) Nurses can be trained to 'generalist' levels of behavioural sophistication in five days using a structured learning format;

(ii) They are competent to use this skill and knowledge to effect clinically important improvements in a wide range of their patients' problems;

(iii) This provides evidence that the 'triadic' model is a viable approach in this context;

(iv) However, attention to maintenance factors are crucial and by manipulating these in a revised training format a higher proportion of patients receive therapy;

(v) The nurse training effects as measured in the classroom are maintained one year after the revised course.

In sum one can conclude by replying to the questions raised in Chapter 3: there are patient and staff problems, but it is possible to address these systematically by training nurses in behaviour therapy.
An effective method for so doing is the structured learning format, and if the enactive phase of this consists largely of a single-case study project conducted with a patient on the ward, then maintenance and generalisation are increased to levels that justify the intervention in terms of direct therapy for patients.

(b) General Conclusions: It seems, on the basis of the foregoing and the other findings, that some general statements can be made about the research. These continue on from the particular conclusions:

(vi) It is possible to conduct research in the experimental social innovation mould in the psychiatric rehabilitation sector of a large N.H.S. hospital;

(vii) Despite numerous and largely unknown contingencies that operate on researcher and subjects, such innovation can be valuable in a number of ways;

(viii) The ecological perspective provides a way of interpreting these effects, and of providing an overall orientation towards interventions themselves;

(ix) One fundamental instance of the complexity addressed by this perspective is the significance of nurse-patient interactions, and their responsivity to skill development and maintenance factors;

(x) Maintenance factors remain the next most logical and important target for research, together with generalisation.

These conclusions are contrary to those of others, where a prevalent view has been that although initial 'classroom' changes could be obtained, little generalisation or maintenance could be expected (Ivancic et al., 1981), and that "overall, there was simply no relationship between institutional effectiveness and in-service training" (Quilitch, 1975, p.64). As a result, it was questioned whether changes in staff behaviours could directly benefit patients (Woods and Cullen 1983, p.6).

The conclusions presented above and the research on which they were based suggest that one of the reasons for this disagreement lies in the sophistication and direction of our analysis. For example, single 'blob' measures of change are less sensitive to the "subtle and complex ...."
contingencies" (Woods and Cullen, 1983, p.15) that exist in and more truly represent the large institution. Equally, trying to measure the effects or presence of these contingencies with instruments of unknown validity is unlikely to be illuminating (see Chapter 4).

Another general conclusion can be drawn from a comparison of this research with other behavioural literature. In terms of evaluation, the determination of not only skills but also their effect on outcome with patients, makes this research more advanced than that concerned with the training of psychologists (Heinrich, 1981). This conclusion is also true in relation to research models and topics pursued in the general field of behaviour therapy, where it has been suggested that a preoccupation with short-term and circumscribed problems has a poor prognosis (Krasner, 1976). The "tougher" research problems are rarely addressed: - Agras and Berkowitz (1980) reported that only 0.4% of the clinical articles in Behaviour Therapy and Behaviour Research and Therapy during 1970-78 were concerned with the 'evaluation of field efficacy', 0% with the evaluation of dissemination methods, and 0% with the evaluation of training methods. Only 1% were concerned with long-term clinical outcomes and with generalisation and maintenance. They do well to suggest that we are at best only 'halfway there' (p.483).

4. INDEPENDENT REPLICATIONS

The traditional and still popular view of science is that it builds on replications (eg. Fiske et al., 1970). This model of scientific discovery is based on induction, that is, the derivation of general statements from accumulated observations, and is regarded as the demarcation between science and non-science (Magee, 1973).

This model has been criticised constructively by Popper (1963), who has suggested instead that the logical asymmetry between verification and falsification affords a solution to the problem of induction. The solution is to formulate our hypotheses as clearly as possible so as to expose them unambiguously to refutation. If they are refuted we are encouraged not to introduce additional ad hoc hypotheses or re-definitions, but to treat the refutation as a discovery, as an opportunity to ask why did something not occur. To re-phrase, we learn from our mistakes not our faultless replications.
This suggests that attempts at replication are valuable according to either scientific model, but that the Popperian approach emphasises the more 'risky' replications, that is repeated trials, where the probability of falsification are maximised.

Three such independent replications have occurred regarding the core course, in addition to the replications effectively conducted by repeating the course a number of times at Carlton Hayes. In this sense, and because it involves other staff dissociated from the organisation of the Carlton Hayes scheme, the replications are regarded as 'risky'.

The first replication was of the core course itself, and the second was of the interview data from Carlton Hayes. These will be discussed in turn:-

(i) **Core Course Replication**: One of the audience attending a conference paper given by the author (Milne, 1981), a nurse-therapist, later sought the opportunity to teach the course himself. It was agreed that it should be taught in a manner as similar as possible to the original core course, and hence the manual (Appendix 17) provided the basis for this, supplemented by discussion of the course steps and other matters not covered or clear from the manual.

Thus, although the actual core course was held as constant as possible, a different trainer from a different discipline, another hospital in the Region, and a different group of nurses were involved ($N = 5$). However, they were similar in age, academic and nursing qualifications, and prior knowledge and experience of behaviour therapy, being the major demographic variables considered in the original experiments.

The results of training were also remarkably similar to those reported above, with no attitude measure changes ('C' scale and ATQ), low baseline scores on the remaining tests, but statistically significant improvements by post-testing. This therefore indicates an extension of the original findings, and can be regarded as a replication of the core course findings presented in Chapter 9.

The author has also replicated the findings from the second experiment. Similar results to those reported in Chapter 10 were obtained using the project-based format in a hospital outside the Region and dissociated from the Carlton Hayes scheme. These two replications suggest
that the training courses can produce significant pre-post changes in different contexts. This therefore indicates that it is the course rather than such variables as the setting or the trainer which is the critical independent variable.

(ii) **Interview Data Replication**: During late 1982, after the author's departure from Carlton Hayes, a recently qualified staff nurse was conducting a survey of the rehabilitation wards by interview and questionnaire. Forty-seven questionnaires were returned of one hundred sent out to all grades, that is including nurses who had not attended the core course, such as learners. The interviews were with the two Nursing Officers concerned with these wards, and focused on the overall rehabilitation scheme.

As regards the core course, the relevant conclusions were as follows:-

- 92% of the forty-seven respondents felt they would like more instruction in rehabilitation methods;

- 60% of these wished this to come from the psychology department; and

- that the core course had had some bearing on the increasing amount of rehabilitation taking place on the wards.

These two quite different forms of replication indicate that the effects of the core course, reported in earlier chapters, generalise to new settings, nurses and trainer, and are also corroborated by independent questionnaire data.

5. **'NEW PROBLEMS'**

Following the introduction of the core course, a number of methodological and scientific issues became more apparent. There were also 'sociopolitical' issues provoked by the intervention *per se*, such as the senior nurses control over core courses via allocation, and of the other nurses following training. I propose to: address these issues in the context of the methodology, and to suggest one 'layer' of contingencies that may influence this control.

The methodological problems are perhaps most readily identified by the psychologist, since this is where their training has placed
its greatest emphasis. The major difficulties in conducting a piece of 'experimental social innovation' were listed in the first two chapters, particularly the second one. The 'new problems' are those that were not anticipated when the original experimental design was conceived, and include the topics of mediators, procedure and training models.

a) **Mediators**: With respect to the subjects, one of the problems was identifying the head nurse on the ward as the therapy mediator. We subsequently realised the potential of the learners to carry out a large proportion of the therapy and assessment. This in turn suggested another new problem, in that although these learners ('student' and 'pupil' nurses) were usually highly motivated, they were also highly mobile, staying for only three months on a rehabilitation ward. This led to an emphasis on the 'pyramid training' skills of the permanent staff. Unfortunately, and as with psychologists, no systematic instruction is given to these qualified nurses on how to teach others, although teaching is part of their job description. In turn, this indicated the importance of assessing the extent to which any pyramid training effect was involved in disseminating the behaviour therapy taught during the core course reported in Chapter 12. Also, it led, latterly, to the development of 'training others' as a course step. The advantages in so doing were largely the apparent value of this in 'solving' the mediator problem, but there were also grounds for believing that teaching others represents a useful and effective learning device (Karlan and Rusch, 1982).

Not least, it also represents another form of feedback to the course organiser: in much the same way as it has been argued that the ultimate test of training in psychotherapy is the effects the therapist has on clients (Matarazzo, 1978), so one could argue that the ultimate test of learning is teaching.

Of course, learning can occur in the absence of the full structured learning format. The most plausible alternative basis for the learners' improvements is observational learning or 'modelling'. Amongst other possibilities, the learning demonstrated in Chapter 12 could have resulted from formalised training, as with the SLF for example, or via 'informal' modelling. However, the finding that both
knowledge and skill measures demonstrated this effect indicates that modelling alone was not the sole instructional method, since it cannot be expected to directly and significantly influence knowledge as measured by the Knowledge Questionnaire (KEPQ).

Nonetheless, it would be valuable to conduct a more thorough assessment of this learning process, since it would have a very important bearing on the overall objectives of the intervention and on the content of the core course.

Continuing the parallel between the qualified staff and learners, it would also be valuable to investigate motivational aspects of the learners' use of behaviour therapy. It may be the case, for example, that the contingencies influencing one group of qualified nurses does not impinge on the other. This would have implications for the innovation strategy. For example, it could be that the critical variable in the learning demonstrated by rehabilitation ward learners was attributable to motivation, rather than skill or knowledge. This being the case, it would suggest the presence and potency of variables indirectly associated with the nurse training, since the learners on other wards did not demonstrate this learning, and since the qualified staff were randomly (i.e., routinely) allocated to rehabilitation wards. It might be, then, that the course influences the qualified staff to, say, become more innovative or experimental in their work, and this is also expressed by learners. This is a falsifiable hypothesis, for example the Kirton Adaptor-Innovation Inventory (KAI, Kirton, 1976) could be administered pre-post the course. Another, related and more 'negative' hypothesis is that learners are customarily stifled rather than coaxed, and therefore the critical variable on the rehabilitation wards is simply the relative removal of this inhibitory process.

The existing data would tend to suggest that neither possibility is very likely, since Conservatism Scale and Attitude to Treatment Questionnaire (ATQ) results indicated little change, pre-post the core course, in nurses' basic orientation towards changing their manner of working with patients. Of course, as has been suggested earlier (Chapter 5), this may be primarily a reflection on the measures themselves, namely that they were insensitive.
b) Procedure:

As regards 'new problems' deriving from the procedure, at the general level this included the strategy of training all permanent and qualified rehabilitation nurses. This procedure can be readily contrasted with the single 'glory ward' strategy, where all nurses on that ward are trained more or less simultaneously. The glory ward thus establishes a group of like-minded nurses, whereas the present approach leads to the dispersing of a few individuals across several wards and at different points in time.

While the rationale for this approach is founded on the theme of establishing a coherent, overall rehabilitation system incorporating all wards, it does contravene Fairweather et al. (1974) eighth principle, concerning the cultivation of peer support as a necessary condition for innovation. Given the arguments for the comprehensive rehabilitation system, and the difficulty in altering the allocation of nurses, there appears to be one major possibility for minimising the isolation of the course graduates. This is to arrange alternative sources of support. The three available options are to involve other graduates in this, the psychologists, and/or the nursing officers.

The support of other trained nurses could mimic the 'neighbourhood' approach to helping agoraphobics (Sinnott et al., 1981). In this case, the nurse could draw on support from her neighbour. This link could be established and initiated by the psychologist during the course, building in a certain amount of maintenance. For example, neighbouring nurses could opt for similar problems in their projects.

The psychologist could also provide more support. One difficulty with this is that, apart from obvious problems over the amount of available time, their involvement on the wards was contingent upon a project plan response from the nurses. A possible solution to both aspects of this difficulty would be to break the plan down into smaller learning steps, and to contingently support each of these, rather than awaiting the complete project 'skill' to emerge. This would probably institute more support and more projects.

The third and complementary option is to develop a comparable contingency between the nursing officers and the nurses. Unlike the two preceding ideas, this one has been investigated. For example, Ivancic et al. (1981) evaluated the effects of the supervisors' prompts
and feedback to nurses. It seems that the supervisors, alluded to as 'staff members', were senior nurses, but they may well have been members of the psychology service. They reported that this procedure was effective in increasing nurses' language interactions with handicapped children, and was maintained over a nineteen week period, when supervisors' support was partially faded. Similarly, Page et al. (1982) trained three supervisors to train forty-five nurses by providing instructions, prompts and consequences for these nurses while working with severely handicapped patients. In addition, the research staff (psychologists) arranged daily feedback to the supervisors on the teaching behaviours of their nursing staff towards the patients. As a result of these manipulations they reported increases in the nurses' teaching and small improvements in the patients.

It would be interesting, however, to conduct a careful analysis of the existing contingencies between supervisory staff such as nursing officers and the nurses prior to establishing some version of the above approaches. This could occur for nursing officer-nurse, nurse-learner and nursing officer-learner dyads, examining both learning and motivational parameters. One can imagine that a modified version of the Social Reinforcement Rating Scale (SRRS) would be capable of gauging some aspects of this, perhaps supplemented by interviews.

As a result of this kind of assessment, it might be evident which supervisory strategy was preferable, if any. There certainly appears to be scope for the development of more systematic and contingent relationships, as in the use of public posting of aspects of the behaviour therapy being conducted on wards. This would formalise and clarify the existing practice of verbally reporting these data at infrequent 'ward rounds'.

**c) The Training Model Problem:** This concerns a review and reformulation of the training model, in the light of this research.

Re-reviewing the literature that addresses the role of in-service training, several things became apparent. Firstly, some of the names and articles quoted in refutation of the training approach to institutional change do not themselves offer the kind of simple and
clear conclusions that some reviewers have highlighted (e.g. Woods and Cullen, 1983). For instance, Georgiades and Phillimore (1975) do not explicitly reject the training model, but rather regard it as "over-simplistic" (p.314). Instead, they place their emphasis on the 'host culture'.

That is, it is simplistic and naive to expect change to follow training, in the absence of a facilitating ward. This is not to say that these changes would occur in the absence of training. To re-state this in formal terms, training may be a necessary condition for organisational change, and organisational change may not be a sufficient condition for the kind of behaviours targeted in training to occur.

This argument can be elaborated by contrasting two models of training. The first of these will be designated the 'ecological model' and consists of a training intervention embedded in the context of numerous interacting variables, any one of which can influence the training. This model is depicted in Figure 13-1 below.

![Ecological Model for Training Interventions](image)

**Figure 13-1**: An ecological model for training interventions

The antecedents ('A' in model) consist of any stimuli which provide the occasion for training. These are proximal, such as a class full of nurses, and distal, such as a rehabilitation scheme. These discriminative stimuli also include such dimensions as the social, physical, political and historical antecedents to the training intervention. For example, they include the perception of staff training as implying that the standard of work has been unsatisfactory up to that point.
The consequences ('C' in model) are also multi-dimensional and not simply contiguous. For example, a nurse may attend the course not for a certificate (proximal consequence) but because it will further their career, or improve their ability to help patients (distal consequences).

Taken together with the training, these antecedents and consequences are the 'setting events' or contingencies for training, and they necessarily incorporate both trainer and trainee (Loeber and Weisman, 1975). Thus, within this model the success of training is to be explained in terms of an expanded behavioural analysis of the contingencies of training as they effect all agents within their physical setting. If it is demonstrated that training does have an effect on nurses, and further that this training directly alters their working environment, then it follows that the impact of in-service training programmes is not to be understood simply as a function of environment or organism, but as an interaction event. It is this interdependency which leads to this model being labelled 'ecological'.

So, for illustration, it is conceivable that nurses have the capacity for given frequencies of a range of behavioural skills. The ward they work on will then elicit and consequate those skills. However, at any point in time the actual use of these skills will depend on a minimum level of both factors. This can be depicted diagrammatically, as in Figure 13-2:

![Diagram](http://example.com/diagram.png)

**Figure 13-2**: The relationship between subjects, environment and skill usage.

The implication of this model is primarily the need to conceive of the use of behavioural skills in terms of the two variables of the nurses' behavioural repertoire and the environmental contingencies. It follows that both of these conditions are important elements of the analysis.
A second training model against which this can be contrasted has been designated 'the radical, non-intervention model'. (I am indebted to my colleague Brian Stanley for both this appellation and the clarification of training models resulting from our conversations). This is actually a non-training model, in which only the antecedents and consequences are considered, and where the behavioural skills are regarded as already present.

That is, alterations in the ward environment are regarded as a sufficient condition for these therapist skills to emerge. This represents a 'black-box' model, obviating the need for 'training', or for considerations of subject variables.

It is possible to provide evidence for either model, for example by reference to the environmental psychology literature, where it has been shown consistently that settings contribute most to the variance in behaviour (e.g. Willems, 1972).

However, it will be argued here that neither training nor environmental manipulation alone are sufficient conditions for major changes in such staff behaviours as skilled behavioural interactions with the patients. The basis for this argument lies in a re-examination of the training phenomenon, and of some of the ecological pressures introduced in earlier chapters.

Particularly, it seems inconceivable that major training interventions can occur in some kind of institutional vacuum, devoid of antecedents or consequences. As Popper (1963) and Willems (1972, 1973) have argued, there are always consequences. In this sense it is mistaken to represent training and environmental manipulation as distinct or unrelated dimensions. For example, as will be elaborated below, the revised 'project' course altered several variables influencing generalisation.

In the present research a range of consequences could be identified, even in the initial S.L.F. course which was based in a physically distinct part of the hospital. For example, by attending the course nurses were absent from their wards, entailing either replacement staff or short-staffing. These would have repercussions for nurses and patients on the ward, and for the nurse returning to
'active duty'. Once back into work, the 'routine' would provide antecedents and consequences for old and new behaviours. If the new ones were 'triggered', say by a given patient's activity, they may also be consequated by 'routine' stimuli administered by colleagues, or by the work environment. By this is meant the response-cost of change, in the case for instance of getting behind with the administrative chores as a result of time given to re-training a patient. The Nursing Officer or other staff may apply aversive consequences to the nurse introducing such change, since they in turn are subject to the consequences that follow from a break in routine.

In this way, one can regard the 'institution' as providing the setting events for inertia or 'institutionalisation', since any change is made costly and aversive. In this, there is a clear parallel with the 'shuttle-box' phenomenon. This does not mean that all nurses will avoid change, and it was clear from this research that they would instigate it even under such apparent conditions as the shuttle-box or response-cost contingency.

No doubt the explanation for this was also in terms of other setting events, possibly distal and also unobservable or inconspicuous to the psychologist at that stage. To offer an example from the trainer's perspective, to innovate was an aversive experience in the short-term, but the delayed rewards of a degree, publications and conference papers provided incentives to continue.

To conclude this argument, it is therefore, apparent (particularly with hindsight) that staff training is a complex organisational event, one that is bound to have consequences for the nurse and for their 'host-culture'. An accurate understanding of this training intervention requires an elaborate analysis of the setting events, and these necessarily incorporate organismic and environmental components as interacting and interdependent variables.

Chapter 12 provided evidence of this interaction. For example, it was found that training qualified staff influenced untargeted issues, such as the clinical case notes and the training of learners. Further evaluations of this kind would no doubt have revealed other interactions. The fundamental point is, therefore, that the training and the setting events are inseparable phenomena.
It follows from this that one of the most valuable steps to take in developing this argument would be to compliment the analysis of the training component with an analysis of the two other parts of the system of setting-events, namely the antecedent and consequent contingencies.

Reference to the behavioural ecology literature reveals a variety of dimensions along which these contingencies might be spread. A list is given in Table 13-1 below:

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Illustrations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Physical, social and historical contents</td>
<td>Absence of a private training room; 'norms of nurse and patients conduct; hospital rules, regulations, routines; past problems with patients.</td>
</tr>
<tr>
<td>2. Patient variables</td>
<td>Other patients; chronic and acute problems; assets; personal resources (task difficulty); physical status.</td>
</tr>
<tr>
<td>3. Intervention model</td>
<td>Traditional and behavioural approaches to change.</td>
</tr>
<tr>
<td>4. Ward programmes</td>
<td>Cues such as tokens and record sheets; consequences such as visitors; evaluations by seniors.</td>
</tr>
<tr>
<td>5. Ongoing events</td>
<td>Pay disputes; Christmas</td>
</tr>
<tr>
<td>6. Feedback</td>
<td>Patient change; programme, flexibility; responses of key agents in hospital, such as N.O., D.N.O. and other nurse and disciplines.</td>
</tr>
<tr>
<td>7. Nurse variables</td>
<td>Career development, strategies; deprivation of training; behavioural contrast.</td>
</tr>
</tbody>
</table>

Table 13-1: Some contingency dimensions representing the setting events for training interventions.

Some of these contingencies were described in Chapter 10, in terms of those variables indirectly manipulated by the project-centred training. They included the increased time available for planning and implementing projects, and the recent history of increased feedback.
and 'public posting' from the revised ward rounds. These now incorporated two psychologists, and the agenda revolved around projects and ward programmes deriving from the training. However, it was the Consultant Psychiatrist and Nursing Officer, the other members of the ward round team, who raised these issues with the Charge Nurse/Sister. In a very important sense, therefore, these figures had adapted the innovation and were using their status to promote it amongst the nurses. Their 'power' or authority represented a contingency that was unavailable to the psychologist.

In addition to assessing the overt role of these contingencies, an ecological analysis also entails attention to interactions within the subject. That is, between these overt relations involving behaviour and environment and the covert dimension that includes the nurses' perceptions of these setting events. To re-phrase in systems analysis terms, there may be advantages in developing an understanding of the perceived cost of change. This entails the question of the benefits of not changing exceeding the cost of changing, an important consideration which is often overlooked.

This model represents a massive progression from the kind of simplistic analysis reported by the much-quoted Quilitch (1975) in which he failed to establish the 'integrity' of the staff training variable. The one day workshop in which he conducted this training was reported in a single paragraph, which informed the reader that no enactive training methods had been used, and the only evaluation was the trainees' opinion of the course. Yet Quilitch concluded that "this study clearly demonstrates that (memos and) workshops were ineffective .... staff-management procedures" (p.64).

This analysis is just as clearly inadequate, since there was neither likelihood nor evidence that this gesture towards staff training produced any change. In effect, the results can be construed as evidence that 'performance feedback', the third variable, is more effective than nothing as a staff management procedure.

However, this conclusion has been seized upon as a pillar of evidence in the argument against staff training, and is cited alongside other data purporting to devalue the training strategy of organisational change. These data have been reviewed thoroughly in Chapter 4, and it
was evident from this review that it is a very weak literature from which to argue anything, except the need for more research.

It is clear, insofar as it is possible at this stage to be 'clear', that we do not currently have the evidence to reject the staff training hypothesis as a necessary condition for organisational change in hospitals. This thesis presents compelling and relatively comprehensive data indicating that training interacts with environment to produce change. The major task that remains is to analyse this 'nature-nurture' relationship, with particular emphasis on the antecedents and consequences of training, for trainees, trainers and the hospital.

In conclusion, some of the implications of this revised model are now summarised:-

a) both baseline data (Chapters 9, 10 and 12) and post-training achievements indicate the need to develop nurses' behavioural skills;

b) such skills are a necessary part of a successful innovation in patient care, and are themselves based on effective training strategies;

c) the second necessary (but not sufficient) part of the innovation is an environment that fosters and supports the use of new skills;

d) this environment is difficult to define, since functionally important relationships may exist with a very wide range of persons, physical structures, and other setting events (see Table 13-1);

e) for example, the role of the patient in monitoring therapist behaviour is one dimension that has escaped careful analysis, except in terms of patient change (cf: therapist change);

f) of course, changes in patients' control over therapists would also be subject to setting events;
g) in sum, therefore, a functional analysis of the contingencies of therapist and patient behaviour is implicated (Loeber and Weissman, 1975). This would seek to clarify the role of setting events for both these change agents, and so promote a more symbiotic contingency exchange;

h) the implication for the psychologist is fundamentally that commitments to staff or patient training should emphasise this 'wider', less contiguous context. As a consequence, we may develop a more profound understanding of change, both institutional and interpersonal.
SUMMARY

This chapter contained a discussion of the particular and more general findings relating to the central nurse training theme. The particular conclusions were uniformly favourable as regards this innovation strategy, and the discrepancy with the literature on this point was considered briefly. The principle distinction leading to these opposing conclusions was regarded as the focus and sophistication of the respective evaluations. One clear instance of this was the failure of research to date to demonstrate, unambiguously, a training effect, and then to relate this to the generalisation issue.

The more general findings also related to the issue of evaluation. It was clear, from a comparison with the literature, that the present research represented an unusually stringent evaluation, in the sense that it anticipated the predicted direction of behavioural research towards determining the efficacy of techniques in 'real world' settings. As this real world was defined as the clinic (Agras and Berkawitz, 1980, p.481), the present research appears to be relatively innovative if not 'pardonably perverse'.

Particular attention was given to future and past possibilities regarding mediators, procedures and modes. It was argued that a valuable step would be to re-assess these, using a similar but revised format and measures. This 'ecological' approach would assist us in determining the more subtle aspects of the intervention and provide us with the opportunity to learn about the next series of 'new problems'.


Ayllon, T., and Azrin, N.H., (1964) "Reinforcement and Instruction with Mental Patients" JERAB, p. 327-331


On paradigms and re-cycled ideologies
Cognitive Therapy and Research, 2, 79-103

Social Learning and Personality Development
Holt, Rinehart and Winston, NY

Ecological Psychology.
Stanford Univ. Press, Stanford.

Midwest and its Children: The Psychological Ecology of an American Town
Row, Peterson Publishers, Evanston, Ill.

Community Psychology.
Methuen, London


Behaviour modification in education and professional practice: the dangers of a mindless technology.

Training behaviour change agents: a conceptual review.
Beh. Ther., 13, 1-23

Preservice training of professionals as behaviour managers: a review.
Behaviour Therapy, 9, 124-126

Behaviour modification with the mentally retarded: a staff training programme.

Teaching Students
Exeter University Teaching Services, Devon.

Some relationships between cultural attitudes towards individuality and care of the mentally ill: an historical study
In M. Greenblatt at al. (Eds) The Patient and the Mental Hospital. The Free Press, Illinois, 1957)

Structured learning in teaching therapists social skills: training, maintenance, and impact on client outcome.
J. Consult. and Clin. Psychol., 48, 491-502

"Repetition in human development"
Merrill Palmer Quarterly, 20, 4, 303-17

Controlling outcomes through impression management: an experimental study of the manipulative tactics of mental patients.
J. Consult. Psychol., 30, 295-300


Bridge, W., Dunn, P., and Speight, I., (1981) "The provision of post-basic education in psychiatric nursing" Nursing Times, 77, 36, 141-4

Brill, H. and Patton, R.E., (1959) Analysis of population reduction in New York State Mental Hospitals during the first four years of large-scale therapy with psychotropic drugs. Amer. J. Psychiatry, 116, 495-500


Training juvenile probation officers in behaviour modification; knowledge, attitude change, or behavioural competence. Beh. Ther., 7, 47-52


Buttrum, S.M., (1976) Behaviour and Rehabilitation Bristol: J. Wright & Sons Ltd.

Caine, T.M., and Smail, D.J., (1966) "Attitudes to Treatment of Medical Staff in Therapeutic Communities" Br. J. Med. Psychol., 39, 329-34


Carkhuff, R.R., (1972) The development of systematic human resource development models. Counselling Psychologist, 3, 4-16

randomly monitored staff utilisation of behaviour modification techniques: long-term effects on clients. J. Consul. and Clin. Psychol. 48, 6, 704-710.
<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Year(s)</th>
<th>Title and Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deutsch, A.</td>
<td>1948</td>
<td>The Shame of the States, New York: Harcourt, Brace and World</td>
</tr>
<tr>
<td>Deutsch, A.</td>
<td>1949</td>
<td>The Mentally Ill in America, New York: Columbia Univ. Press</td>
</tr>
<tr>
<td>Deutscher, I.</td>
<td>1966</td>
<td>&quot;Words and Deeds: Social Science and Social Policy&quot; <em>Social Probs., 13, 235-65(b)</em></td>
</tr>
<tr>
<td>Ellsworth, R.B.</td>
<td>1968</td>
<td>Non Professionals in Psychiatric Rehabilitation, Appleton - Century - Crofts, NY</td>
</tr>
<tr>
<td>Evans, W.I. and Wilson G.T.</td>
<td>1968</td>
<td>&quot;Note on the terminological confusion surrounding systematic desensitisation&quot; <em>Psychological Reports, 22, 187-191</em></td>
</tr>
</tbody>
</table>


Fleisch, R., (1948) "A New Readability Yardstick" J. Applied Psych. 32, 3, 221-252

Ford, J.D., (1979) Research on training counsellors and clinicians Review of Educational Research, 49, 1, 87-130


Franzini, L.R., and Tilker, H.A., (1972) "On the terminological confusion between behaviour therapy and behaviour modification" Behaviour Therapy, 3, 279-282


Gilbert, D.C. and Levinson, D.J., (1956)

Ginsberg, G., and Marks, I., (1977)

Glaser, E.M., (1973)

Goffman, E. (1961)

Goldiamond, I., (1974)

Goldiamond, I., Dyrud, J.K., and Miller, M.D., (1965)

Goldstein, A.P. and Goldhart, A., (1978)

Gorgiadès, N.J. and Phillimore, L., (1975)

Gott, M., (1982)


Greenblatt, M., Levinson, D., and Williams, R.H. (1957)


Gruber, R.P., (1971)

Custodialism and 'humanism' in mental hospital structure and in staff ideology. J. Abnorm. and Soc. Psychiat., 53, 263-71

"Costs and Benefits of Behavioural Psychotherapy". Psychol. Med. 7, 685-700

Knowledge transfer and institutional change. Professional Psychol. 4, 434-444


"Toward a constructional approach to social problems". Behaviourism, 2, 1-64

"Practice as research in professional psychology". The Canadian Psychologist, 6a, 1, 110-128

The use of structured learning for empathy enhancement: in para-professional psychotherapist training. J. Community Psychol., 1, 163-173


"Theories of learning and the teaching of nursing". Nursing Times, April 21, 78, 11, 41-4

Measuring client gains from staff-implemented programs. J.A.B.A., 11, 395-412

The Patient and the Mental Hospital Glencoe, Ill., U.S.A., : The Free Press

"Measuring client gains from staff-implemented programs". JABA, 11, 395-412

In: I. McPherson and A. Sutton (Eds.) Reconstructing Psychological Practice Croom Helm, London.

The token economy program in the psychiatric hospital: a review and analysis. B.R.A.T., 12, 205-226.

"Behaviour Therapy: Problems in Generalisation" Beh. Ther. 2, 361-8
<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Date</th>
<th>Title / Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guerney, B.G.</td>
<td>1969</td>
<td>Psychotherapeutic Agents</td>
</tr>
<tr>
<td>Hale Report</td>
<td>1964</td>
<td>University Grants Committee (1964), Report of the Committee on University Teaching Methods. (Chairman, Sir E. Hale)</td>
</tr>
<tr>
<td>Hargreaves, W.A.</td>
<td>1969</td>
<td>&quot;Rate of Interaction Between Nursing Staff and Psychiatric Patients&quot; Nursing Research, 18, 5, 418-25</td>
</tr>
<tr>
<td>Hartshorne, H., and May, M.A.</td>
<td>1928</td>
<td>Studies in Deceit N.Y.: Macmillan</td>
</tr>
<tr>
<td>Hersen, M.</td>
<td>1980</td>
<td>President's message. The Behaviour Therapist, 3, p.11</td>
</tr>
<tr>
<td>Hersen, M.</td>
<td>1979</td>
<td>Limitations and problems in the clinical application of behavioural techniques in psychiatric settings. Beh. Ther., 10, 65-80</td>
</tr>
<tr>
<td>Hersen, M.</td>
<td>1981</td>
<td>&quot;Complex problems require complex solutions&quot; Behaviour Therapy, 12, 15-29</td>
</tr>
</tbody>
</table>
Organisational and management problems of mental illness hospitals. ('Noddle Report') London

Issues in the training and evaluation of behaviour modification skills for staff working with profoundly retarded multiply handicapped children. Behav. Psychother., 9, 345-357


Behaviourism: part of the problem or part of the solution. J.A.B.A., 11, 163-174

A reinforcement program for psychiatric attendants. J. Beh. Ther. and Exp. Psychiat., 5, 297-300


Evaluating a supervision programme for developing and maintaining therapeutic staff resident interactions during institutional care routines. J.A.B.A., 14, 95-107

Microcounselling and attending behaviour: An approach to pre-practicum counselor training. J. Counsel. Psychol., 15 (monograph, Suppl. 5)

Using parents as change agents for their children: a review. J. of child Psychol. and Psychiat., 14, 181-200
Johnson, S.M. and Bolstad, O.D. (1973)  

Johnson, S.M. and Lobitz, G., (1972)  
"Demand characteristics in naturalistic observation"  
Unpublished manuscript, University of Oregon, Eugene.

Joint Board of Clinical Nursing Studies (1980)  
Courses of interest mainly to nurses of the mentally ill and mentally subnormal  

Jones, F. and Enniers, R.C. (1975)  
Role-playing to train elementary teachers to use a classroom management 'skill package'.  
J.A.B.A., 8, 421-433

Kandler, H., et. al. (1952)  
"Study of Nurse-Patient Interaction in a mental Hospital"  
Amer. J. Nurs. 52, 1100-1103

"Behaviour therapy: a panacea for all ills or a passing fancy"  
Archives of General Psychiatry, 15, 114-128


Correspondence between saying and doing: Some thoughts on defining correspondence and future directions for application.  
J.A.B.A., 15, 151-162

Modifying the dispensing of reinforcers: some implications for behaviour modification with hospitalised patients.  
Beh. Ther., 3, 579-588

Kazdin, A.E., and Bootzin, R.R., (1972)  
"The Token Economy: An Evaluative Review"  
JABA, 5, 343-71

Kazdin, A.E., (1975)  
"Behaviour Modification in Applied Settings"  
Homewood, Illinois: Dorsey Press

Kazdin, A.E., and Moyer, W., (1972)  
Training teachers to use behaviour modification  
In S. Yen (ed) Training Behaviour Modifiers  
Mich: behaviourdelia

Kazdin, A.E., and Wilson, G.T., (1978)  
Evaluation of behaviour therapy: issues, evidence, and research strategies  
Cambridge, Mass., Ballinger


Mair Report (1972) Report of sub-committee of the Standing Medical Advisory Committee Scottish Health Services Council on Medical Rehabilitation H.M.S.O., Edinburgh


Mischel, W., (1973) "Toward a Cognitive Social Learning Reconceptualisation of Personality" Psych. Rev., 80, 252-83


<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Title</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>J. Wiley and Sons: New York</td>
<td></td>
</tr>
<tr>
<td>Nelson, R.O., Kapust, J.A., and Dorsey, B.L. (1978)</td>
<td>&quot;Minimal reactivity to overt classroom observations on student and teacher behaviours&quot;</td>
<td></td>
</tr>
<tr>
<td>Nelson, R.O., (1981)</td>
<td>&quot;Realistic dependent measures for clinical use&quot;</td>
<td></td>
</tr>
<tr>
<td></td>
<td>McGraw-Hill, 2nd ed. N.Y.</td>
<td></td>
</tr>
<tr>
<td>Nuttal, P.D., (1965)</td>
<td>&quot;Nursing education in Britain today&quot;</td>
<td></td>
</tr>
<tr>
<td></td>
<td>International Nursing Review, 12, 6, 6-12</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Psych. Bull., 81, 418-433</td>
<td></td>
</tr>
<tr>
<td></td>
<td>J. Beh. Ther. and Exp. Psychiat. 10. pp. 29-34</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Beh. Ther., 13, 2, 194-208</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Holt. Rinebart and Winston, London</td>
<td></td>
</tr>
<tr>
<td></td>
<td>J.A.B.A., 15, 335-351</td>
<td></td>
</tr>
<tr>
<td>Patterson, G.R., (1967)</td>
<td>Re-programming the social environment.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>J. Ch. Psycho. and Psychiat., 8, 181-195</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hodder and Stoughton, Kent, G.B.</td>
<td></td>
</tr>
<tr>
<td>Paul, G.L. (1966)</td>
<td>Insight and Desensitisation in Psychotherapy</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Stanford Univ. Press, Calif., U.S.A.</td>
<td></td>
</tr>
</tbody>
</table>
Paul, G. L. (1967)
Insight vs desensitization in psychotherapy two years after termination.
J. Consul. Psychol., 31, 335-348


Paul, G. L., McInnes, T. L., and Mariotto, M. J. (1973)
"Objective performance outcomes associated with two approaches to training mental health technicians in milieu and social learning programs" J. Abnorm. Psychol. 82, 3, 523-532

"Attitudinal Changes Associated with two Approaches to Training Mental Health Technicians in Milieu and Social Learning Programmes" J. Consul. and Clin. Psychol. 42, 1, 21-33

Paul, G. L. and Lentz, R. J. (1977)

Feedback to attendants as a reinforcer for applying operant techniques J.A.B.A., 3, 523-532

Panyan, M.C. and Patterson, E. T. (1973)
Teaching attendants the applied aspects of behaviour modification: an empirical approach.
Proceedings, 61st Annual Convention, A.P.A., 8, 897-8

Patterson, E. T., Griffin, J. C. and Panyan, M. C. (1976)
Incentive maintenance of self-help skill training programs for non-professional personnel.
J. Beh. Ther. and Exp. Psychiat., 7, 249-253

Patterson, G. R., and Harris, A. (1968)

Patterson, G. R., and Reid, J. B. (1970)
Reciprocity and Coercion: two facets of social systems.
In Newinger and Michael (Eds.) Behaviour Modification in Clinical Psychology Appleton-Century-Crofts, New York.

Patterson, G. R., and Fleischman, M. J. (1979)
"Maintenance of Treatment Effects: Some Consideration Concerning Family Systems and Follow-Up Data" Beh. Ther. 10, 160-65

<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Title and Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poole, A.D., Sanson-Fisher, R.W., and Thompson, P., (1981)</td>
<td>&quot;Observations of the Behaviour of Patients in a State Mental Hospital and a General Hospital Psychiatric Unit: A Comparative Study&quot; BRAT, 19, 125-34</td>
</tr>
<tr>
<td>Powelson, H. and Bendie, R., (1951)</td>
<td>Psychiatry in Prison Psychiatry, 14, 73-86</td>
</tr>
</tbody>
</table>

Robson, C., (1973) Experiment, design and statistics in Psychology. Penguin, Middlesex


Rosenthal, G., (1983) Paper presented at the Scientific Meeting of the Trent Regional Rehabilitation Interest Group, Middlewood Hospital, Sheffield, 10.3.83.


Schwartz, M.S. (1957) What is a Therapeutic Milieu? In: Greenblatt et al. (Eds.), (1957)

Seigel, S., (1956) Non-Parametric Statistics for The Social Sciences

Shah, I., (1971)  


Skinner, B.F., (1938)  

Skinner, B.F. (1948)  

Skinner, B.F., (1953)  

Skinner, B.F. (1968)  


Stavert, G.S., (1969)  


Stein, T.J., (1975)  


Stokes, T.F. and Baer, D.M., (1977)  


Stones, E., (1979)  


Thinkers of the East  

Penguin Books  

Augmentation of in vivo exposure treatment for agoraphobia by the formation of neighbourhood self-help groups.  

B.R.A.T., 19, 339-348  

The Behaviour of Organisms  

NY: Appleton-Century-Crofts  

Walden Two  

Macmillan: New York  

Science and Human Behaviour  

Free Press, New York.  

The Technology of Teaching  

Prentice-Hall Inc., New Jersey  

A system for evaluative research in behaviour therapy.  

Psychother: theor. res. and pract., 17, 37-43  

Programmed learning in action  

Bacie J. 23, 16-20  

"Pin-pointing: One method of Improving Staff Compliance with Rehabilitation Regimes"  

J. Beh. Med. 4, 1, 53-64  

"Some ethical considerations of short-term workshops in the Principles and Methods of Behaviour Modification"  

JABA, 8, 113-5  

A partial evaluation of an introductory training program in behaviour modification for nurses.  

Amer. J. Commun. Psychol., 5, 1, 23-32  

An implicit technology of generalisation.  

J.A.B.A., 10, 349-367  

Adoption of innovations from applied behavioural research: does anybody care?  

J.A.B.A., 14, 491-505  

Psychopedagogy  

Methuen and Co. Ltd., London  

Educational Evaluation and Decision Making  

Suchman, E.A., (1967)  
Tharp, R.G. and Wetzel, R.J., (1969)  
Thorndike, E.L., (1921)  
Towell, D., and Harries C. (Eds) (1979)  
Town, S.W., (1973)  
Trick, L., and Obaraskas, S. (1968)  
Ullman, L.P., and Krasner, L. (1965)  
Vernon, M.D. (1946)  
Vernon, M.D. (1951)  

Evaluative research  
NY: Russell Sage Foundation  
"Critical Variables in the Token Economy"  
In: I. McPherson and A. Sutton (Eds.) Reconstructing Psychological Practice  
Croom Helm: London  
The Death of the Asylum  
Grune and Stratton: New York  
Behaviour Modification in the Natural Environment  
Academic Press, New York  
The Psychology of Learning  
Innovation in Patient Care  
Croom Helm: London  
"Action research and social policy: some recent British experience"  
Sociological Review, 32, 211  
Understanding Mental Illness and its Nursing  
Pitman Medical.  
Toward Effective Counselling and Psychotherapy: Training and Practice  
Chicago: Aldine.  
Case studies in behaviour modification  
NY: Holt, Rinehart and Winston  
Learning from graphical material.  
Brit. J. Psychol., 36, 3, 145-158  
Learning and understanding.  
Quart. J. Experim. Psychol., 3, 19-23  
"The Modification of Childhood Stuttering: Some Response-Response Relationships"  
"Social Systems Analysis: Implementing an Alternative Behavioural Model"  
"Setting Events in Applied Behaviour Analysis: Toward a Conceptual and Methodological Expansion"
JABA, 11, 327-38

Modelling and staff behaviour.
J. Counsul. and Clin. Psychol., 41, 41, 422-429

"A Useful Ecobehavioural Perspective for Applied Behaviour Analysis"

"Staff Attitudes and Treatment Effectiveness"
J. Clin. Psychol. 86, 2, 601-5

"How to Use Behaviour Modification with Mentally Retarded and Autistic Children: Programmes for administrators, Teachers, Parents and Nurses"
Behaviour Modification Technology Ltd., FO Box 597, Libertyville, Illinois 60048

Shaping and maintaining behaviour modification skills in staff members in an M.R. Institution.
Ment. Retardation, 9, 3, 39-42

The use of contingent reinforcement for training staff members and parents working with autistic and mentally retarded children. In D.A. Primrose (Ed.) Proceedings of the Second Congress of the International Association for the Scientific Study of Mental Deficiency Amsterdam, Sweden: Swetz and Zeittinger.

A program for teaching behaviour modification skills to institutional staff.
Applied Res. in Mental Retardation, 1, 41-52

Unobstrusive measures: a survey of non-reactive research in the social sciences. Chicago: R. McNally

"Transfer of Training in Behaviour Modification Programs: An Evaluative Review"
J. of Special Educ., 11, Part 2, pp. 217-31

"Systematic observational methods"
<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Year</th>
<th>Title</th>
<th>Journal/Publication Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Welford, A.</td>
<td>1958</td>
<td></td>
<td>Fundamental of Skill</td>
</tr>
<tr>
<td>Williams, E.P.</td>
<td>1965</td>
<td>&quot;An Ecological Orientation in Psychology&quot;</td>
<td>Merrill-Plamer Quarterly, 11, 317-43</td>
</tr>
<tr>
<td>Wilson, G.T.</td>
<td>1978</td>
<td>&quot;On the much discussed nature of the term 'behaviour therapy'&quot;</td>
<td>Behaviour Therapy, 9, 89-98</td>
</tr>
<tr>
<td>Wilson, G.T.</td>
<td>1982</td>
<td>&quot;Psychotherapy process and procedure: the behavioural mandate&quot;</td>
<td>Behaviour Therapy, 13, 291-312</td>
</tr>
</tbody>
</table>


Wright, P. (1966) Technology transfer and utilisation: active promotion of passive dissemination? Research/Development, November (Quoted in Fairweather et al., 1974, p.28)


Appendix 1

Attitude to Treatment Questionnaire (A.T.Q.): -
behavioural version with scoring instructions.
Instructions.

Set out below are some activities which may be part of a nurse's job. Please indicate how much you would agree or disagree with a nurse working in this way. This questionnaire is in the form of statements with which you may agree or disagree more or less strongly. We should be grateful if you would indicate your answer by putting a circle round the appropriate letters, which are explained as follows:

SA means strongly agree.
A means agree or tend to agree.
U means uncertain whether you agree or disagree.
D means disagree or tend to disagree.
SD means strongly disagree.

Please answer all the questions.

1. Making sure that patients don't have time to think about their problems. SA A U D SD

2. Observing patients' behaviour in order to report to doctors SA A U D SD

3. Suggesting to patients the underlying reasons for what they (the patients) say and do. SA A U D SD

4. Talking to the patients and trying to get to the root of their problems. SA A U D SD

5. Keeping discipline on the ward. SA A U D SD

The following are statements about the types of treatment, the patients, and the staff in a hospital such as this. Please indicate how far you agree or disagree with the statements:

6. The doctor's knowledge makes them the only people capable of treating the patients SA A U D SD
7. Patients should not talk about their problems to anybody except the doctor.

8. The point of a patient being in hospital is to have his mind taken off his problems.

9. Nurses should have no part in the decisions made about how a patient should be treated.

10. Physical treatments (tablets, electrical treatment etc.) are on the whole more effective than any other kind of treatment.

11. The doctor's knowledge and experience means that he is the only person capable of keeping treatment on the right track.

12. Patients should be encouraged to take an active part in the planning and organization of the ward.

13. The nurse's main responsibility is to keep the ward tidy, clean and in good order.

14. Treatment in psychiatry is a scientific technique and should not involve the doctor's feelings.

15. Nurse-patient relationships can be just as effective in treatment as doctor-patient relationships.

16. Nurses should always consult the doctors about the best way to handle a patient.

17. The aim of treatment should be to rid patients of psychiatric symptoms, not to change them as people.

18. It's more important for patients to talk about their relationships within the ward than to talk about their relationships outside.
19. Physical treatments are a means of getting through to patients but not a cure in themselves.

20. By and large psychotherapy is a waste of time.

21. One of the most important things in treatment is to establish the correct diagnosis.

22. Doctors should be able to alter their decisions about patients as the result of listening to the nurses' view.

23. Physical treatments.

24. Discipline.
SCORING THE A.T.Q.

All the questions are given equal weight, they are divided into pro-behavioural (+) and anti-behavioural (-) statement.

If there is strong agreement with a pro-behavioural statement, then the score is 5, it decreases as the extent of the agreement decreases, to a minimum score of 1 for strongly disagree. Anti-behavioural statements receive reflected scores (where 1 = 5, 2 = 4, 3 = 3, 4 = 2, 5 = 1). A zero indicates that no answer has been given.

THE PRO-BEHAVIORAL ITEMS ARE:
1, 2, 5, 12, 14, 15, 17, 18, 19, 22, 24.

THE ANTI-BEHAVIOURAL ITEMS ARE:
3, 4, 6, 7, 8, 9, 10, 11, 13, 16, 20, 21, 23.
Appendix 2

Conservation Scale ('C Scale') and scoring instructions.
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Which of the following do you favour or believe in?

(Circle 'Yes' or 'No'. If absolutely uncertain, circle '?'.
There are no right or wrong answers; do not discuss; just give your
first reaction. Please answer all items).

| 2. Evolution theory | Yes ? No | 27. Chastity | Yes ? No |
| 4. Striptease shows | Yes ? No | 29. Royalty | Yes ? No |
| 5. Sabbath observance | Yes ? No | 30. Women judges | Yes ? No |
| 7. Patriotism | Yes ? No | 32. Teenage drivers | Yes ? No |
| 8. Modern art | Yes ? No | 33. Apartheid | Yes ? No |
| 10. Working mothers | Yes ? No | 35. Church authority | Yes ? No |
| 15. Divine law | Yes ? No | 40. Mixed marriage | Yes ? No |
| 17. White superiority | Yes ? No | 42. Jazz | Yes ? No |
| 18. Cousin marriage | Yes ? No | 43. Straitjackets | Yes ? No |
| 19. Moral training | Yes ? No | 44. Casual living | Yes ? No |
| 20. Suicide | Yes ? No | 45. Learning latin | Yes ? No |
| 22. Legalized abortion | Yes ? No | 47. Inborn conscience | Yes ? No |
| 24. Student pranks | Yes ? No | 49. Bible truth | Yes ? No |
| 25. Licensing laws | Yes ? No | 50. Pyjama parties | Yes ? No |
Appendix 2

Scoring Instructions for the Conservatism Scale:

Odd numbered items

each 'yes' = 2

Even numbered items

each 'no' = 2

? (Neither 'yes' nor 'no') = 1

Maximum possible therefore = 100
Score increases with Conservatism.
Appendix 3

Knowledge of Behavioural Principles Questionnaire (K.B.P.Q.) and scoring instructions.
Directions

Read each question and each of its four possible answers. Sometimes more than one answer could be correct under certain circumstances; however, you should select the best answer or the answer that is most generally true. Circle the letter of the answer you require.

Example

Probably the more important influence in a patient's life is his ...

a. Cigarettes
b. Television
c. Sex
d. Friends

Please do not consult others while deciding how to answer the question. Be sure to fill in only one letter for each question. Be sure to answer every question even if you must guess.

--- 000 ---

1. Probably the most important idea to keep in mind when first changing behaviour is:

   a. To use both reward and punishment.
   b. To reward every time the desired behaviour occurs.
   c. To be flexible about whether or not you reward.
   d. To be sure the patient understands why you want the behaviour to change.

2. A patient becomes disruptive when told he cannot go out. How should the nurse deal with this?

   a. Ask the patient why going outside is so important to him.
   b. Explain that it is a nurse's right to make such decisions.
   c. Explain again why he should not go out.
   d. Ignore the disruptive behaviour.

3. In changing a patient's behaviour a nurse should try to use:

   a. About one reward for every punishment.
   b. About one reward for every five punishments.
   c. About five rewards for every punishment.
   d. Practically all rewards.

4. Which of the following statements is most true?

   a. People usually fully understand the reasons for their actions.
   b. People are often unaware of the reasons for their actions.
   c. People's actions are mostly based on logic.
   d. It is necessary to understand the reason for a person's behaviour before trying to change the behaviour.
5. If punishment is used for a behaviour such as window smashing, which type is probably best to use?
   a. Make the patient do extra domestic work.
   b. Clearly express your disapproval.
   c. Remove the patient to a boring situation each time.
   d. A reasonable punishment.

6. Nurses who use lots of rewards for good behaviour and few punishments will probably tend to have patients who:
   a. Do not understand discipline.
   b. Will not co-operate unless they are "paid".
   c. Take advantage of their nurses.
   d. Are well-behaved and co-operative.

7. Which of the following is the most effective in getting a patient to do domestic work?
   a. "When you finish your domestic work you can watch TV".
   b. "You can watch this show on TV if you promise to do your domestic work when the show is over."
   c. "If you don't do your housework tonight, you can't watch TV at all tomorrow."
   d. Explain the importance of housework and the dangers of putting things off.

8. Each time nurse starts to write, a patient begins making a lot of noise which prevents her from writing up notes. The best way for the nurse to get the patient to be quiet while she is writing is to:
   a. Severely reprimand him when this occurs.
   b. Pay close attention and praise him when he is quiet while she is writing and ignore his noisy behaviour.
   c. Call him to her and gently explain how important it is for her to have a quiet time for herself each time this occurs.
   d. Tell him that he won't get a cigarette after dinner if he continues.

9. A patient often cries when he is around the nurse. To try to find out why he cries, the nurse should probably first consider the possibility that:
   a. He is trying to tell her something.
   b. He needs more attention.
   c. She is somehow rewarding his crying.
   d. She is not giving him enough attention.

10. If a patient very gradually receives rewards less and less often for behaviour, what is most likely to happen?
    a. He will soon stop the behaviour.
    b. He will be more likely to behave that way for a long time.
    c. He will not trust the person giving the reward.
    d. None of the above.
11. In a problem solving group, the therapist gives each patient a reward plus praise for each correct answer. Which of the following statements are most true?

a. The reward is a bribe and doesn't belong in a therapeutic session.
b. At first the patients work to earn the reward and may later work for the praise alone.
c. Patients shouldn't be "paid" for responding to therapy.
d. It probably doesn't make much difference whether or not reward is used, because a patient who wants to improve would do so and the others won't.

12. To record, graph and note the direction of change of behaviour is:

a. A minor, optional step in a behaviour change programme.
b. An important step in the behaviour change programme.
c. A procedure employed only by scientists for research.
d. A time consuming and complicated procedure, therefore; these procedures should only be used in special cases.

13. Which of the following is most true about physical punishment?

a. It should immediately follow the undesirable behaviour and at full intensity.
b. It should be mild and immediately follow the undesirable behaviour.
c. It should begin in a mild form and, if that doesn't work, intensity should gradually be increased.
d. It is ineffective and inappropriate.

14. Which of the following is not an important step in a behaviour change programme?

a. Make certain the patient feels ashamed for his misbehaviour.
b. Decide on a particular behaviour that you wish to change.
c. If necessary, break the selected behaviour down into smaller steps.
d. Select a proper time and situation for measuring the behaviour.

15. Two patients fight constantly. Their nurses decide to praise them when they talk together nicely, however, they still continue to fight. Punishment may be necessary. What is probably happening?

a. They don't want the nurse's praise.
b. The benefits of fighting are stronger to them than their nurse's praise.
c. They have too much anger toward each other to control.
d. They are at a stage they will grow out of.
16. A nurse found punishing a patient did not seem to stop him from using naughty words. Rather than punishing him, she should send him to be by himself. The room he is sent to should be:
   a. His own room, so he will still have something to do.
   b. Small and dark.
   c. As uninteresting as possible.
   d. A large room.

17. Which reward is probably best to help a patient who is already beginning to learn to budget to improve?
   a. A pound for each evening he studies budgeting.
   b. A penny for each budgeting problem he works correctly.
   c. Ten pounds for each successful attempt at budgeting.
   d. A large present for passing budgeting tests for the rest of the year.

18. A nurse pays a patient twenty-five pence to remove the rubbish from the ward. If the nurse forgets to give the patient the money for a few days, what is most likely to happen?
   a. The patient will continue to take out the rubbish because he realises how important this is.
   b. The patient will stop taking out the rubbish.
   c. The patient will begin to do extra work, as well as taking out the rubbish, so that nurse will notice how well he is doing and remember to give him the money.
   d. The patient will start to misbehave to take out his anger about not being paid.

19. The first step in changing a problem behaviour is:
   a. Reward the patient when he is behaving nicely.
   b. Punish the patient for misbehaviour.
   c. Carefully observe the behaviour.
   d. Seek help from someone who is more objective.

20. The patient has just torn up a new magazine. Of the following choices, which is the best way for the nurse to discipline him?
   a. Tell him he will be punished later.
   b. Punish him then and there.
   c. Explain to him the wrongness of his action.
   d. Angrily scold the patient so that he will learn that such an act is bad and upsetting to the nurse.

21. Which would be the best example of an appropriate way to praise a patient?
   a. Well done.
   b. I like you.
   c. I like the way you helped me put the dishes away.
   d. I will tell the Charge Nurse how nice you were when he comes on duty.
22. A patient sometimes says obscene words, but only in front of the sister. She has been shocked and makes her feelings clear to him. How should she react when he uses obscene words?

   a. Wash his mouth out with soap.
   b. Ignore him when he uses obscene words.
   c. Tell him how bad he is and how she doesn't like him when he uses those words.
   d. Explain to him the reasons such words are not used.

23. Punishment will not be effective unless you:

   a. Prevent the patient from escaping while you punish him.
   b. Throw all of your emotions into the punishment, so the patient will realise how serious you are.
   c. Follow it with a careful explanation of the reasons for the punishment.
   d. Have tried everything else.

24. Which of the following is probably the most important in helping a patient behave in a desirable way?

   a. To teach him the importance of self-discipline.
   b. To help him understand right and wrong.
   c. Provide a system of consequences for his behaviour.
   d. Understanding his moods and feelings as a unique person.

25. How often a behaviour occurs is probably mostly controlled by:

   a. The person's attitude about his behaviour.
   b. What happens to him at the same time the behaviour occurs.
   c. What happens to him just before the behaviour occurs.
   d. What happens to him just after the behaviour occurs.
Directions.

Read each question and each of its four possible answers. Sometimes more than one answer could be correct under certain circumstances. However, you should select the best answer or the answer that is most generally true. Circle the letter of the answer you require.

Example:

Probably the most important influence in a patient's life is his...

(a) Cigarettes
(b) Television
(c) Sex
(d) Friends

Please do not consult others while deciding how to answer the question. Be sure to fill in only one letter for each question. Be sure to answer every question even if you must guess.

1. Desirable and undesirable behaviour are most alike in that they are:
   
   (a) The result of emotions.
   (b) Habits and therefore difficult to change
   (c) Ways the patient expresses himself
   (d) The result of learning

2. Most problem behaviour in patients is probably:
   
   (a) A reaction to deeper emotional problems.
   (b) Due to lack of communication in the ward.
   (c) Accidentally taught by the nursing staff.
   (d) Due to a stage which they will outgrow.

3. Which of the following is most important for nurses in controlling their patient's behaviour?
   
   (a) The rules the nurses make about behaviour.
   (b) The nurse's understanding of the patient's feelings.
   (c) The behaviours to which the nurse attends.
   (d) Being strict but also warm and gentle.

4. Which of the following is the least likely way for a patient to react to the person who punishes them?
   
   (a) The patient will try to avoid the punisher.
   (b) The patient will have admiration and respect for the punisher.
   (c) The patient may copy the punisher's methods and do similar things to friends.
   (d) The patient will associate the punishment with the punisher.
5. If you are trying to teach a person a communication skill.
   a. Reward the patient after speaking a sentence.
   b. Reward the person for saying a word.
   c. Reward the patient for any vocalization.
   d. Punish the patient if he did not speak.

6. A patient has been rewarded each time he cleans his room.
   In order to keep the room clean without having to use a reward, the next step should probably be to:
   a. Have a talk about how pleased you are and then stop giving the reward.
   b. Give the reward about one out of five times.
   c. Give the reward almost every time.
   d. You must always reward it every time.

7. When should a patient who is just learning to dress himself be praised the first time?
   a. When he gets his foot through the first hole in his underwear.
   b. When he gets his underwear completely on.
   c. When he asks to do it himself.
   d. When he has completely finished dressing himself.

8. Three of the following responses refer to forms of punishment which are mild and effective, which one is not?
   a. Ignoring the undesirable behaviour.
   b. Sending the patient to a dull room for a few minutes.
   c. Taking away something the patient likes (such as dessert after supper).
   d. Scolding.

9. Which of the following is the most effective form of punishment in the long run for reducing the patient's undesirable behaviour?
   a. Scolding him every time he does it.
   b. Occasionally punishing him when he does it.
   c. Sending him to his room for 5 mins. every time he does it.
   d. Sending him to his room all afternoon every time he does it.

10. A good rule to remember is:
   a. Do not reward with money if possible
   b. Catch a patient doing something right.
   c. Reward good behaviour and always punish bad behaviour.
   d. Punishment is always necessary.
11. Which of the following is true about punishment?

a. Punishment teaches respect.
b. Punishment should be delayed until it can be carefully determined that it is really necessary.
c. Punishment can teach a patient new behaviours.
d. Some punishments can result in a patient becoming aggressive.

12. A patient loves football. What is most likely to happen if, each time he is talking with another patient, the nurse invites him to play football?

a. He will always be asking the nurse to play football.
b. He will talk nicely with the other patients more often.
c. He will be annoyed with the nurse for interfering with his activity.
d. He will be encouraged to teach other patients to play football.

13. A nurse is teaching a patient to hit a thrown ball with a bat. Which of the following methods will probably most help this patient to learn to hit?

a. Let him try to hit the ball without saying anything so the patient can learn on his own.
b. Occasionally tell him what he is doing wrong.
c. Occasionally tell him what he is doing right.
d. Tell him almost every time he does something right.

14. Punishment, as a way to get rid of undesirable behaviour, is best used when:

a. When you are very upset.
b. You want to teach the patient the right way to behave.
c. The behaviour may be dangerous.
d. Scolding doesn't seem to be effective.

15. If you want a patient to develop proper work habits, you should:

a. Encourage him to work.
b. Help him to see his work place is pleasant.
c. Reward him whenever he works.
d. Give him good reasons why he will need to work.

16. A patient often cries over any small matter that bothers her. How should the nurses react to best reduce her crying?

a. Reward when she reacts without crying.
b. Use a mild punishment when she cries.
c. Try to find out what is really troubling the patient and deal with that.
d. Provide her with something interesting so she will stop crying.
17. If you want a patient to say please and thank-you at the table, it is probably most important to:
   a. Reprimand him when he forgets to say them.
   b. Explain why good manners are important.
   c. Remember to compliment him when he remembers to say them.
   d. Praise other patients when they use these words.

18. A major problem has been getting a patient to bed in the evening. The nurse has decided to change this and wants to measure the relevant behaviour. Which is the best way for her to do this?
   a. Each evening record whether or not he goes to bed on time.
   b. Chart his behaviour all day long, up to and including bedtime, to try to find out what causes his not wanting to go to bed.
   c. Each week make a note of how easy or difficult it has been to get him to go to bed.
   d. Ask the patient to keep his own record each week.

19. A nurse tells a patient he cannot go out because he didn't clean his room like he promised. He reacts by shouting, crying and promising he will clean his room later. What should the nurse do?
   a. Ignore him.
   b. Take him out but make him clean his room when they return.
   c. Calm him down and help him clean the room.
   d. Talk to him and find out why he does not take responsibility.

20. In changing a behaviour it is most important to use:
   a. Methods which have been tested by others.
   b. Consequences which are rewarding to the patient.
   c. Consequences which are punitive to the patient.
   d. Rewards which do not bribe the patient.

21. A patient is doing a number of things that greatly disturb the nurse. It would be best for the ward staff to:
   a. Try to quickly eliminate all these undesirable behaviours at once.
   b. Select just a few behaviours to deal with first.
   c. Select a single behaviour they find most disruptive and concentrate on that.
   d. Wait for 28 to 30 days before beginning to try to change his behaviours to make certain they are stable and persistent.

22. Listed below are four methods used to change behaviour. Which is usually the best technique to get a patient to stop smoking in bed?
   a. Punish the undesired behaviour.
   b. Ignore the behaviour.
   c. Reward the patient for desirable behaviour in a situation in which he usually misbehaves.
   d. Explain to the patient why the behaviour is undesirable.

23. If you want to make a behaviour a long lasting habit, you should:
   a. Reward it every time.
   b. First reward it every time and then reward it occasionally.
   c. Promise something the patient wants very much.
   d. Give several reasons why it is important and remind the patients of the reasons often.
24. The most likely reason a patient misbehaves is because:
   a. He is expressing angry feelings which he often holds inside.
   b. He is about to misbehave.
   c. He was born with a tendency to misbehave.
   d. He has not been properly told this behaviour is wrong.

25. A patient often screams for several minutes and gets the nurses attention. Which of the following is probably the best way for the nurse to reduce the screaming?
   a. If there is nothing physically wrong with the patient, ignore his screaming even though the first few times he screams even louder.
   b. Distract the patient with something he finds interesting whenever he screams.
   c. Ignore all noises and sounds the patient makes.
   d. None of the above. Patients usually have good reasons for screaming.
**APPENDIX 3**

**K.B.P.Q. - A.**

**SCORING KEY**

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## K.E.P.Q. - B.

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Appendix 4

INTRODUCTION
The B.T.P.S. is intended to provide a relatively brief yet reliable & valid measure of the application of behaviour therapy suitable for use in the ward context. Users of the scale (raters) must first obtain satisfactorily high levels of agreement before evaluating ward programmes.

The scale consists of five categories:

1. Presenting the session;
2. Providing prompts;
3. Applying contingencies;
4. Ending the session; &
5. Data collection.

These categories are expected to cover most forms of nurse (or mediator) applied behavioural programmes. However, few programmes will involve all five categories, and there is therefore a need to prorate where less than five are used.

The scoring criteria for each category are first broadly outlined, and then more specific guidelines are provided. The scoring system is as follows:

SCORING SYSTEM:
- = Irrelevant to score; No opportunity to observe
0 = Lack of trainer response, or totally incorrect response
1 = 'Poor' trainer response; neither good nor bad, intermediate
2 = 'Good' trainer response
3 = 'Excellent' trainer response.
CATEGORY ONE : PRESENTING SESSION

BROADLY:
A consistent and appropriate start to the session. Important factors are:

1. that the trainer obtains subjects attention
2. the trainer begins at a level appropriate to the patients progress (correct step in chain)
3. the trainer uses the proper sequence of steps, and only proceeds to the next step if the subject is successful.

SPECIFICALLY:

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<td>Not applicable e.g. In excess programmes, if there is no occurrence of the target response for reasons beyond the scope of the programme.</td>
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<td>Score 0</td>
<td>If the trainer is inconsistent, fails to initiate (cue), or begins at an inappropriate level.</td>
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<td>Score 2</td>
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</tr>
<tr>
<td>Score 3</td>
<td>All three broad factors observed OR Does as well as possible (excellent) given the constraints of the programme.</td>
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CATEGORY TWO : PROVIDING PROMPTS

BROADLY :

The key factors are:

1. Prompts given in the correct order, i.e. verbal, gestural, physical (if no previous trail)

2. Prompts given in the correct manner, i.e. as minimal as is necessary to enable the patient to start to respond (N.B rate first prompt only)

3. Prompts at the correct time, i.e. as soon as the patient appears to be unable to respond.

SPECIFICALLY :

SCORE

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<td>If prompting is irrelevant or inappropriate</td>
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<tr>
<td>Score 0</td>
<td>If no prompt of any kind is given when the patient/s fail to respond</td>
</tr>
<tr>
<td>Score 1</td>
<td>When the trainer does one of the key things, i.e. correct order correct time correct manner</td>
</tr>
<tr>
<td>Score 2</td>
<td>When the trainer does two key things, or all three factors, with up to two minor errors</td>
</tr>
<tr>
<td>Score 3</td>
<td>When the trainer provides all three factors, or Does as well as possible, given the constraints of the programme.</td>
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CATEGORY THREE : APPLYING CONTINGENCIES

BROADLY:

1. Trainer consistently uses the same consequence for a given response
   i.e. CONTINGENT Does not reward inappropriate behaviour.

2. Trainer provides immediate consequence, i.e. CONTIGUOUS

3. Trainer uses appropriate consequences, (i.e. decelerators for excess responses & rewards for deficit responses)

SPECIFICALLY:

SCORE  TRAINER ACTIVITY

Score - If the use of consequences is irrelevant

Score 0 When the trainer fails to provide any consequences appropriately

Score 1 Trainer adheres to one of above, or two (max.) poorly administered

Score 2 Trainer does two of the broad factors
   OR
   all three, with up to two minor errors

Score 3 Trainer does all three of above
   OR
   Does as well as possible, given the constraints of the programme
CATEGORY FOUR : ENDING THE TRAINING SESSION

BROADLY :

1. Removal of the important cue/s for the session.

2. Cessation of the programmes contingencies, where appropriate.

3. Reinstating or arranging activities for patient/s.

SPECIFICALLY :

SCORE        TRAINER ACTIVITY

Score -     Where contingency is continued across more than the training setting e.g.

Score 0     Trainer provides no distinction between session and other periods.

Score 1     One of the broad factors present, OR

Two present, but with minor errors

Score 2     Two factors present, correctly administered OR

All three, with up to two minimal errors

Score 3     All three factors employed, OR

Best possible end, given the programme.
CATEGORY FIVE : DATA COLLECTION

BROADLY :

1. Trainer maintains accurate records, i.e. involving reliable, appropriately measured data, using correctly labelled & completed record sheets (e.g. trainers name, date etc.)

2. Trainer keeps complete records i.e. no missing data.

3. Summary of data prepared e.g. graph or mean scores.

SPECIFICALLY :

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<td>Score 2</td>
<td>Two of the above observed OR All three, with minor errors.</td>
</tr>
<tr>
<td>Score 3</td>
<td>All three of the factors present &amp; correct OR Records as excellent as possible, given the programme.</td>
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</table>
**B.T.P.S. : RECORD SHEET**

**TRAINEES NAME:** ........................................  **WARD:** ........................................

**RATERS NAME:** ........................................  **PATIENTS NAME:** ........................................

**TARGET RESPONSE:** ........................................

**COAL OF PROGRAMME:** ........................................

**SUMMARY OF PLAN:** ........................................

<table>
<thead>
<tr>
<th>Cat. No.</th>
<th>Category title</th>
<th>Three key factors</th>
<th>Dates and ratings</th>
<th>F-up</th>
<th>Mean score for all observat'n</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Presenting the session</td>
<td>Consistent Cued Apt. level</td>
<td>Date</td>
<td>Score</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Providing prompts</td>
<td>Order Timing Manner</td>
<td>Date</td>
<td>Score</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Applying contingencies</td>
<td>Contingent Appropriate Contiguous</td>
<td>Date</td>
<td>Score</td>
<td></td>
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<tr>
<td>4</td>
<td>Ending the training session</td>
<td>Cues Consequences Activity</td>
<td>Date</td>
<td>Score</td>
<td></td>
</tr>
<tr>
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<td>Data collection</td>
<td>Complete Accurate Summarised</td>
<td>Date</td>
<td>Score</td>
<td></td>
</tr>
</tbody>
</table>

**OVERALL SCORE (PRORATED)** ........................................

**COMMENTS** ........................................................................

........................................................................

........................................................................
Appendix 5

Manual for Scoring Nursing Care Plans ('projects') and record sheet.
APPENDIX 5

WRITTEN PROJECTS

BROADLY:
The written project should be a clear and viable treatment plan. This is regardless of whether or not subjects utilise the outline that they are provided with. Scoring is in terms of the presence of clear and relevant information as defined under each of the 5 categories listed below. The maximum possible scores for the respective categories are 3, 4, 3, 3 & 5, making an overall maximum total of 18.

SPECIFICALLY:

Category 1: Description of the Problem (headings 1 & 2 on the outline)

Score 0: If the subject has
(a) failed to state the target response, or
(b) done so in vague or subjectivist terms (e.g. 'annoying other patients'; 'not doing as told' etc.)
(c) Illegible responses.

Score 1: When the subject:
(a) States a target response in operant terms (e.g. 'asking other patients for money')

Score 2: When the subject:
does (a) above; and
(b) Gives explicit information on where or when the target response occurs.

Score 3: When the subject does
(a) above; and
(b) above but with explicit information on where and when the response occurs. (e.g. the patient asks for money in the day room after breakfast)
CATEGORY 2 : FORMULATION OF THE PROBLEM
(Headings 3 & 4 on outline)

Score 0 If the subject:
(a) Offers no information at all: or
(b) Provides a non-behavioural formulation (e.g. 'reason for problem is schizophrenia').
(c) Provides illegible response.

Score 1 When the subject indicates:
(a) A behavioural history of the problem, but this is vague (e.g. 'patient has learnt to be this way') or
(b) States equally vaguely the possible current reasons for the behaviour (e.g. 'patient is under the influence of the staff/patients').

Score 2 For answers that state:
both (a) and (b) in 'score 1'.

Score 3 For answers that state either:
(a) A clear outline and history, including an indication of possible onset time and/or maintenance since then (e.g. 'it began when patient X arrived 6 months ago').
(b) The reasons for the problem, in terms of the controlling cues and/or consequences (e.g. 'it always occurs when patient X is there' and/or 'patient X always gives him money' etc).

Score 4 for 3 (a) and 3 (b) above.
CATEGORY 3: BASELINE RECORD
(Heading 5 on outline)

Score 0
For no response, or illegible response.

Score 1
(a) For a vague indication of how the baseline record will be made (e.g. 'record of target response prior to treatment') which, although not stating how it will be made, does indicate that it will be done somehow. or Clear plan but inappropriate measure or target response (e.g. recording duration when frequency more clearly relevant, or recording off-task behaviour when on-task would be more appropriate).

Score 2
either for:
(a) a clear plan to use a given observational technique. (e.g. fixed period)

or

(b) a clear plan to use a given measure of the target response (e.g. frequency count)

Score 3
for both 'score 2' (a) and (b) above.
Score 0  
No response, illegible

Score 1  
if the subject:
(a) States an inappropriate goal (i.e. strengthening an 'excess' response; or too-far removed from baseline level - unrealistic)
(b) or is vague about the goal (e.g. 'get patient better').

Score 2  
When the subject either:
(a) States an appropriate, realistic goal; or
(b) States the goal 'clearly' (i.e. unambiguous use of English and a behavioural goal) - e.g. 'to walk to the hospital shop alone').

Score 3  
for answers including both 'score 2' (a) and (b) above.
CATEGORY 5: TREATMENT PLAN
(heading 7 on handout)

SCORE 0
No response, illegible.

Score 1
(a) for answers giving vague indication of one aspect of treatment (e.g. 'go through the steps in training').

Score 2
(a) for answers referring to two aspects of treatment (e.g. cues and consequences) but again without sufficient clarity to allow someone else to implement programme (e.g. 'make a signal for the patient to respond and then reward him' also, no specification of what reward is to be).

Score 3
for answers clearly detailing:
(a) at least one element to plan (from 1. cues, 2. consequences, & 3. how these will be introduced).

Score 4
for answers clearly planning the use of two elements from 'score 3' (a) above.

Score 5
When answers provide a clear plan to use all elements from 'score 3' (a) above. (e.g. 'when the trainer takes the patient aside after tea and says "programme time" he begins to systematically praise the patient for eye contact, shaping him from no eye-contact to looking into trainers' eyes for 5 second, through the intervening steps' - as written out in plan).

or
when at least 1 of 2 elements are planned with unusual skill ('bonus').
Appendix 5

Record Sheet for Project Plan

Outline headings for written behaviour therapy programme.

1. **Reason for selecting the patient for treatment.**
   (a) What is the problem? (brief outline).
   (b) What is the significance of reducing this problem? (Is it worth tackling?)

2. **The Problem**
   (a) Details as regards where, when, etc. the problem occurs.
   (b) What else influences the problem to change?
   (c) Can the patient control their own behaviour?

3. **History of the problem**
   (a) When did it first start?
   (b) What has happened since then?

4. **Possible reason for the problem**
   (a) For example, maintained by certain cues or consequences.

5. **How the baseline record will be made**
   (a) Definition of response to be recorded
   (b) What response will be recorded?
   (c) In what way - method and measures to be used?

6. **Goal of treatment**

7. **How treatment will be introduced**
   (a) What consequences or cues etc. will be varied to effect changes in the target response?
   (b) When will they be introduced (eg. all meal times?)
Appendix 6

Functional Analysis (F.A.):
record sheet and verbatim content
Appendix 6
F.A. Record Sheet

Name: ___________________________ Date: ___________________________

Instructions:

You will shortly have the opportunity to watch a brief strip of film showing a patient at a table. The film will be shown three times.

1. On the first showing simply decide which behaviour you are going to count. Write this below, beside 'behaviour'.

2. On the second showing try to make an accurate record of how often the behaviour occurs. Write this into column one below, marked 'how often'.

3. On the third and final showing of the film try to record things that seem to be related to the behaviour you have decided to observe. Write these into the columns 'before' and 'after' below, depending on whether the related things you observe precede or follow the behaviour.

<table>
<thead>
<tr>
<th>Behaviour:</th>
<th>HOW OFTEN?</th>
<th>BEFORE</th>
<th>AFTER</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
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<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Overview: The scene involves two psychiatric patients sharing a table at meal time. During the meal their conversation becomes progressively more 'heated,' eventually culminating in the departure of one of the patients.

A = first patient (male) already sitting at table

B = second patient (male) joining him.

Script:

B "hello .... you OK? How are you these days? .... what's the matter you're not speaking?"

A "did you ask before you sat down?"

B "no"

A "well do you do that at home then?"

B "no"

A "you don't .... what do you ask at home do you? .... but you didn't here"

B "why should I?"

A "You just come over here and decide to sit down ... I don't know .... I'd be better off at home ...."

B "maybe you would!"

A "yeah! you think so ... you think I'd be better off at home? ... you're saying I don't need to be in hospital?"

B "its not up to me is it, its ...."

A "you came down here and sit down without asking and then you say I shouldn't be in hospital .... well I don't know .... what's your game then?"

B "what's your game?"

A "listen, I don't know why you bother sitting down here, why did you?"

B "to annoy you"

A "yeah, I thought it was, well if you want to annoy me then you can go somewhere else."

(A bangs table and knocks ashtray off table for emphasis, B walks off screen)

(END)
Appendix 7

Formulation and Treatment Plan
(F.T.P.) : record sheet
APPENDIX 7

FORMULATION & TREATMENT PLAN (FTP).

NAME .................................. DATE ..................................

Directions.

You will have already completed the F.A. form, which required you to watch a short strip of film. On the basis of what you were able to record on that form, we would like you now to state what you think was responsible for making the patient behave as he did. To help we will show the same strip of film again, but only once this time. When it finishes, please answer the two questions below. Do not spend more than two or three minutes on each question.

A. What made the patient behave as he did?

B. What could be done to help the patient?
Appendix 8

Functional Analysis (F.A.):
Scoring Manual
General
Raters should first view the F.A. video until familiar with its contents. They should then score the subjects' answers under each of the four categories below ('behaviour', 'how often', 'before', and 'after'). It can be seen that the maximum possible score for each of the categories is 3, making the overall total possible score 12. Subjects are credited with the best answer given under each category, even if there is one or more non-scoring or contradictory reply.

Specific Scoring Criteria

SCORE 0: For all categories where answers are any one of the following:

a. No response
b. Illegible
c. Unintelligible
d. Factually incorrect ('false').
e. A 'subjective (inferential) account (e.g. 'he was agressive because he felt annoyed').
f. A vague, unclear description: i.e. one that cannot be identified or recognised by the scorer on the basis of having himself viewed the video. If this remains an inadequate criteria, add the demand that the description given by the subject must be capable of being acted (so, for example 'gesticulation' or 'aggression' would score '0' on both counts as in neither case would this term be specific enough to permit recognition or its acting).

g. Defaced/scored out responses,
CATEGORY 1: 'BEHAVIOUR'

General Criteria: Score increases when the answer:
(a) is clearly defined and accurate or true
   (i.e. describing something that did occur).
(b) refers to an overt, observable behaviour.
(c) and selects a clinically relevant target
    response (i.e. one of those listed in
    table 1 below).

Specifically:

Score 0   As per 'Score 0' above.
   None of above general criteria (e.g. 'aggression';
   'antagonism'; 'frustration'.)

Score 1   One of the general criteria;

Score 2   Two of the general criteria;

Score 3   Three of the general criteria.
<table>
<thead>
<tr>
<th>PATIENT ON LEFT</th>
<th>BEHAVIOUR</th>
<th>FREQUENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>score</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>a. Banging table +</td>
<td>5</td>
<td>4 or 3</td>
</tr>
<tr>
<td>b. Speaking *</td>
<td>8</td>
<td>6 - 10</td>
</tr>
<tr>
<td>c. Knocking ashtray off table</td>
<td>2</td>
<td>1 or 3</td>
</tr>
<tr>
<td>d. Pointing with finger</td>
<td>4</td>
<td>3 or 5</td>
</tr>
<tr>
<td>e. Food to mouth (eating)</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>f. Head in hands</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PATIENT ON RIGHT</th>
<th>BEHAVIOUR</th>
<th>FREQUENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>a. Speaking</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Food to mouth (eating)</td>
<td>4</td>
<td>3 or 5</td>
</tr>
<tr>
<td>c. Sitting</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>d. Leaving table</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>e. Pointing</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

* Define as any period of speech until broken by other.
+ Includes c.
Category 3: 'Before'

General Criteria: Score increases as the answer:

(a) is clearly expressed and readily understood
(b) refers to overt (observable) antecedents; &
(c) refers to a relevant (contingent or contiguous) antecedent. (e.g. second person sitting down; asking questions; making sarcastic remarks).

Specifically:

Score 0 as for 'Score 0' above
When answer is not an antecedent to category 1
or category 1 scores 0

Score 1 One of the general criteria above

Score 2 Two of the general criteria above

Score 3 All of the general criteria above
Category 4: 'After'

General Criteria: Score increases as the answer:

(a) is clearly expressed and readily understood;
(b) refers to an overt (observable) consequence; &
(c) refers to a clinically relevant consequence (one of those listed in Table 1 above, plus 'leaving the table or equivalent').

Specifically:

Score 0: as for 'score 0' above.
Also when answer does not refer to a consequence of Category 1 above or when score for category 1 = 0

Score 1: One of the general criteria above.

Score 2: Two of the general criteria above.

Score 3: All of the general criteria above.
Appendix 9

Formulation and Treatment

FORMULATION & TREATMENT PLAN (F.T.P.)

General: Raters should first view the F.A video until familiar with its contents. They can then score answers under the two headings below ('what made the patient behave as he did'; and 'what could be done to help the patient'). All replies are considered, with the best answer being credited. The maximum possible score is 7 (3 & 4 respectively).

A. 'What made the patient behave as he did?'

General Criteria: Score increases as replies include more of the following:

(a) reference to antecedents as agents controlling the patient's behaviour (as described in category one of F.A) (e.g. other patient sitting down; his asking provocative questions; table banging sending person away, etc)

(b) Reference to consequences as influencing behaviour (as described in category four of F.A, e.g. a consequence of second person's arrival and questions was the subsequent table-banging and 'accusatory' speech of the other person)

(c) A behavioural explanation/account of the behaviour. (i.e. referring to operants, not using hypothetical constructs, etc). e.g. (a) + (b) above.

Specifically:

Score 0  For 'score 0' on F.A. None of above general criteria
Score 1  For one of the general criteria
Score 2  For two of the general criteria
Score 3  For all of the general criteria
B. "What could be done to help this patient?"

General criteria:
Score increases as the following items are included in the reply:

(a) Vague reference to general use of behaviour therapy
(e.g. 'start a programme'; 'train the patient';
'conditioning'.)  
OR statement of need to do more assessment first
OR Specific reference to alternative form of treatment.
(e.g. E.C.T.; group therapy)

(b) reference to one specific behavioural approach, without
clearly specifying target response to be treated.

(c) All in (b) but with clearly stated target response.

(d) Reference to more than one behavioural technique.
(e.g. in plan to use differential reinforcement; or
social skills training plus time out, etc).

Specifically

Score 0  For all in 'Score 0' of F.A. Vague reference to other forms of psychotherapy ('listen to'; 'reason with'; 'attempt to understand' etc). No reference to behaviour therapy, or if so inappropriate technique or target response.

Score 1  For one of the general criteria above

Score 2  For two of the general criteria above

Score 3  For three of the general criteria above

Score 4  For all four of the general criteria above
Appendix 10

1. Completing the record sheet: for each social interaction observed, place a tick in one of the cells in the matrix.
   
   **Rows:** each row represents one social interaction. For each row there should therefore be one tick under one of the columns.

   **Columns:** the three broad headings, ('reward', 'punishment', & 'ignored') refer to the basic types of consequence being applied in the interaction. They are defined below. Each of these headings then has two sub-categories, namely 'appropriate' & 'inappropriate'. These refer to the patients behaviour. These terms are also defined below. Lastly, the final division is between nurse and patient. A tick should be placed under the one who gives the consequence. 'Impossible to classify' refers to any problem in recording (e.g. merging of two categories or difficulty in observing).

   **Summary:** Three decisions need to be made in completing the SRRS

   (a) what types of consequence is being given (reward, punishment or ignored)

   (b) Is this consequence 'appropriate' or 'inappropriate'; and lastly

   (c) who gave the consequence, 'nurse' or 'patient'

2. Definition of Terms

   (i) 'Reward': this refers to consequences such as praise, smiling, approving, continuing to respond or show interest (attending), giving advice or information.

   (ii) 'Punishment': all consequences that are basically the opposite of reward, including scolding, arguing, ordering, ceasing to respond or show interest, and also refusing to comply.

   (iii) 'Ignored': this consequence refers to a fundamental lack of social interaction, i.e. two individuals behaving as if the other was absent (or an object) in circumstances where a consequence would be considered probable under 'normal' social conditions. Examples include walking away from a conversation, not attending to or responding to advice or orders. (N.B. this failure to begin to attend or generally interact with others should be distinguished from marked interruptions of these actions. These would also be classed as 'punishment').
(iv) 'Appropriate': examples of 'appropriate' social behaviour include broadly all co-operative and friendly interactions, and more specifically activities like sharing a joke, confiding, volunteering greetings, obeying advice or instructions (e.g. chores), eating with others and doing things jointly in good-natured unison. Offering or accepting cigarettes etc. N.B. It does not include passive or 'deficit' behaviour, e.g. the absence of operants, (looking blank)

(v) 'Inappropriate': broadly the opposite of 'appropriate'. Includes generally all activities that are anti-social, 'psychotic' or solitary. Examples are incoherent speech, bizarre behaviour, talking or laughing to self, shouting, swearing, pacing, refusing to comply with requests, eating alone, contravening rules.

3. When to record: One 12 minute unit (i.e. a record sheet) should be recorded per hour. Only periods during the afternoon shift are recorded. The hours are 4 - 5.

Time-sampling, beginning every 30 seconds for each quarter hour is used and only interactions occurring on the 30 second interval are recorded. The sum of recordings per hour therefore totals 48 minutes.

4. Where to record: all recordings are made in the dayrooms of wards. The observer should sit centrally but be as unobtrusive and passive as possible.

5. Who to record: the major interaction of interest is between nurse and patient, and these are recorded before patient - to - patient interactions. Otherwise a consecutive left - to - right sampling procedure is used for all clearly observable subjects in the room. This means that in a room containing, say, three concurrent and long-duration interactions either (a) record the one involving a nurse and a patient or (b) the one most to the left is recorded first, followed by the interactions next on the right of the original interaction, and so on, every 30 seconds.

Eventually three distinct groups will be observed; as follows:

(a) 'untrained' staff, i.e. nurse & O.T's who have not attended a core course;
(b) core course graduates; &
(c) course graduates who have completed projects
# SOCIAL REINFORCEMENT RATING SCALE (S.R.R.S.) RECORD SHEET

**DATE** | **WARD** | **ROOM** | **OBSERVER** | **SHEET NUMBER**
---|---|---|---|---

**NURSES NAME** | **B.T.TRAINING** (CIRCLE ONE) | **NONE:** | **CORE:** | **CORE + PROJECT:** **SPECIALIST**

**NUMBER OF STAFF ON DUTY**

<table>
<thead>
<tr>
<th>Time of Starting Recording</th>
<th>Nurse Behaviour Code (ABCL)</th>
<th>REWARD</th>
<th>PUNISHMENT</th>
<th>IGNORED</th>
<th>IMPOSSIBLE TO CLASSIFY (Describe Behaviour)</th>
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<tr>
<td><strong>Time (minutes)</strong></td>
<td></td>
<td><strong>Appropriate Behaviour</strong></td>
<td><strong>Inappropriate Behaviour</strong></td>
<td><strong>Appropriate Behaviour</strong></td>
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</tr>
</tbody>
</table>

**REWARD**
- **Appropriate Behaviour**
- **Inappropriate Behaviour**

**PUNISHMENT**
- **Appropriate Behaviour**
- **Inappropriate Behaviour**

**IGNORED**
- **Appropriate Behaviour**
- **Inappropriate Behaviour**

**IMPOSSIBLE TO CLASSIFY**
- **Describe Behaviour**
Appendix II

Attendant Behaviour Checklist

Instructions for use: while using the S.R.R.S. note any observable nurse activities, and code them as indicated. Both a number (1 or 2) and a letter should be recorded. Time-sampling is every 30 seconds, on the quarter hour. As only those activities which can be observed from the raters fixed location can be recorded, a second albeit minimal additional source of information is to note what the nurse is doing when you arrive and leave the ward.

All nurses should be observed and their activities, while in the 'range' of the rater, recorded. Distinguish between 'trained' (i.e. having done the behaviour therapy course) and 'untrained' nurses.

Codes: This abbreviation of the A.B.C.L. allows more rapid and reliable ratings. The codes are as follows:-

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Definition</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Patient orientated activities</td>
<td>a) Supervision - providing care of the patients</td>
<td>Watching or monitoring patients.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b) Personal Care - caring for patients bodily needs.</td>
<td>Bathing, dressing feeding, giving medication.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>c) Socialization - engaging in warm interpersonal relations</td>
<td>Recreation, friendly conversation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>d) Training - teaching new skills and rewarding old skills</td>
<td>Teaching self-care, social skills etc.</td>
</tr>
<tr>
<td>2</td>
<td>Other Activities</td>
<td>Broadly, everything except above Includes:</td>
<td>Smoking, tea &amp; coffee breaks chatting with other staff reading paper etc.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>a) Leisure time - time spent not related to patient or job</td>
<td>Preparing medicine, talking with other professionals, meetings, ordering supplies, writing case notes.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b) Ward management - running ward, records, book-keeping</td>
<td></td>
</tr>
<tr>
<td>CATEGORY</td>
<td>DEFINITION</td>
<td>EXAMPLES</td>
<td></td>
</tr>
<tr>
<td>---------------</td>
<td>------------------------------------------------------</td>
<td>--------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>1. Supervision</td>
<td>Providing protective care of the patients</td>
<td>Watching or monitoring patients. Telling a patient to do something so as to protect them.</td>
<td></td>
</tr>
<tr>
<td>2. Personal Care</td>
<td>Caring for the patients bodily needs</td>
<td>Bathing, dressing, feeding etc. Administering medication</td>
<td></td>
</tr>
<tr>
<td>3. Socialization</td>
<td>Engaging in warm interpersonal relations</td>
<td>Recreation, friendly conversation</td>
<td></td>
</tr>
<tr>
<td>4. Punishment</td>
<td>Actual or threatened abuse, physical or verbal</td>
<td>Hitting, raising hand, putting patients into seclusion.</td>
<td></td>
</tr>
<tr>
<td>5. Training</td>
<td>Teaching new skills &amp; rewarding old skills</td>
<td>Teaching self-care, social skills etc.</td>
<td></td>
</tr>
<tr>
<td>6. Rejection</td>
<td>Lack of acceptance of patient, physical or verbal</td>
<td>Ignoring requests, avoiding physical contact, verbal abuse or name calling.</td>
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</tr>
<tr>
<td>7. Leisure Time</td>
<td>Time spent not related to the patient or the job</td>
<td>Smoking, tea and coffee breaks, chatting with other staff, reading paper etc.</td>
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</tr>
<tr>
<td>8. Housekeeping</td>
<td>Cleaning and ordering the ward</td>
<td>Washing, dusting, moving furniture, making beds etc.</td>
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</tr>
<tr>
<td>9. Ward Management</td>
<td>Running ward</td>
<td>Preparing medicine, talking with other disciplines (inc. phone) case conferences.</td>
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</tr>
<tr>
<td>10. Records and Memoranda</td>
<td>Bookeeping duties</td>
<td>Keeping records on patients, including case notes. Checking and ordering supplies.</td>
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</tr>
<tr>
<td>11. Clothing Management</td>
<td>Keeping clothing and hair neat and clean</td>
<td>Stacking, folding sheets; counting, checking and caring for clothes.</td>
<td></td>
</tr>
<tr>
<td>12. Other Activity</td>
<td>None of above, or impossible to classify.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix 12

Behaviour Observation Instrument
(B01) : manual and record sheet
BEHAVIOUR OBSERVATION INSTRUMENT : METHOD

1. **Coding Procedures:** place a letter (mutually exclusive behaviour) & number/s (concomitant behaviour/s) on the B.O.I. record sheet in the column labelled 'observed behaviour codes'. Also note, in the same row, when and where ('location') the observation occurred.

2. **Selection of Code:** have the codes and manual available for ready consultation at all times. If unsure, code as 14 ('other'). Base the code/s on the observation of a patient over a 5-second interval. It is therefore quite possible that several consecutive or even concurrent behaviours can occur. All falling within the 5 second interval should be coded and recorded.

3. **Who to observe:** All patients within the location (room) assigned on that day. Order of observation, when there is more than one patient in the room should be based on a left to right succession with 30 second intervals (see 4 below).

4. **When to observe:** two observation periods per day are the requirement. These two periods are selected from the random figures. Allow 30 seconds between successive patient observations. Repeat observations after one hour.

5. **Where to observe:** a successive period in each ward as dictated by random selection. Only day room to be included. The duration of the period will be determined by the number of patients in the given room, and also by whether or not they leave the room (cease recording).

6. **How to observe:** attempt to be a non-participant observer, at least in so far as not initiating behaviours from patients (or staff). Try to be indifferent/unresponsive to events, as far as possible. If there is reason to believe that you influenced the observed behaviour, note this in the 'clarifying comments' column of the record sheet.

**Summary**

The B.O.I selects rooms and times of recording randomly and codes the behaviour of patients in that room in succession. The patients samples are, therefore, randomised by the room selection procedure.
BEHAVIOUR OBSERVATION INSTRUMENT : CODES

Mutually Exclusive Behaviours:

A. Walking  B. Running  C. Standing  D. Sitting  E. Lying Down

N.B. for D & E, note (a) eyelids open or (b) closed.

Concomitant Behaviours.

1. Drinking
2. Smoking
3. Eating  
   (a) Meals
   (b) Other than meals
4. Chewing (gum or nails)
5. Grooming  
   (a) oneself
   (b) another person
   (c) being groomed
6. Reading/Writing/Looking (at magazines or T.V. etc.)
7. Recreational activities.
   (a) Group activities
   (b) Solitary
8. In conversation with another patient.
   (a) talking
   (b) listening
   (c) argumentative
   (d) friendly
9. In conversation with staff or visitor
   (a) talking
   (b) listening
10. Inappropriate behaviour
    (a) perseverative/unusual: motor
    (b) perseverative/unusual: verbal
11. Helping in ward. (e.g. preparing food, materials, setting tables)
12. Cleaning or tidying up.
13. In a group meeting.
    (a) actively participating
    (b) not active but attentive
    (c) apparent inattention
14. Other (e.g. crying, laughing) Give brief description in cell.
<table>
<thead>
<tr>
<th>DATE:</th>
<th>TOTAL NUMBER OF PATIENTS PRESENT (assign number on left to right basis &amp; indicate below).</th>
<th>All observed behaviour codes occurring during 5-second interval</th>
<th>Location/ Ward. (Day &amp; T.V. rooms)</th>
<th>Clarifying comments (eg did patient leave room during observation)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>+30sec</td>
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<tr>
<td></td>
<td>+30 sec</td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

Total no. staff on duty: 

Overview of setting:
APPENDIX 12

BEHAVIOUR OBSERVATION INSTRUMENT

INSTRUCTIONAL MANUAL

William J. DeRisi    Peter N. Alevizos

Edward J. Callahan and Thad Eckman
The Behaviour Observation Instrument (BOI) is an observation recording technique which is designed to measure the behavioural ecology of psychiatric facilities. (DeRisi, Alevizos, Eckman, Callahan & Liberman, 1975a). The activity of specific individuals or groups of clients is assessed by time sampling over 20 categories of behaviours.

The BOI was derived from Shaeffer & Martin's (1966, 1969) observational coding system used to measure the ward behaviour of long-term psychiatric patients. In its present form the instrument has been designed to assess client activity on psychiatric inpatient or day treatment facilities associated with hospitals or community mental health centers (see Liberman, DeRisi, Alevizos, Callahan, & Eckman, 1975)

Coding Format

The BOI divides observational records into three coded subsections:

1. Mutually Exclusive Behaviours, identify gross anatomical movements or body positions such as sitting, standing, walking, running or lying down.
2. Concomitant Behaviours, identify other possible accompanying behaviours including eating, solitary recreation, self-injurious motor behaviour and conversations.
3. Locations, code the immediate physical setting associated with the behaviours. Five mutually exclusive and 15 concomitant behaviours are operationally defined in Table 1. The major behaviour categories of the BOI are numerically coded; additional subcategories are coded using lower case letters. Capital letters are used to indicate the physical setting in which the behaviours occur.
**Observation Procedures**

Each observer uses a data record sheet and stopwatch. The data sheet includes spaces for date, time observation is begun, the observer's name, overview of ward, total number of patients present, and spaces for entering codes and clarifying comments (see attached BOL record sheet).

The observer begins by seeking out the first person on the left and observes this individual for five continuous seconds. All behaviours observed during this interval are then coded in the following order: (1) Mutually exclusive behaviour, (2) location, and (3) Concomitant Behaviours (if any). Coding is done immediately, and then the next target subject is sought.

To help prevent selection bias, the observer rates subjects in the order left to right of his field of vision. Also, commencement of observation is determined by the stopwatch reaching the 'hour' and 'half-hour' intervals. This reduces bias arising from the observer waiting for some noteworthy behaviour to occur before starting the observation.

**Frequency Observation**

The number of observation samples conducted is dependent upon both practical and methodological issues. Practical concerns include the number of clients to be observed, the amount of time available for observation, and the subject population's overall activity level. In general these practical concerns must be considered with respect to the issue of reliable data sampling. That is, the number of observation necessary to produce samples which accurately reflect the general rates (baserates) of the behaviours observed. With inpatients and day treatment populations this was determined to be, respectively, two and six five-second observations per day (Alevizos,
Callahan, DeRisi, Eckman, Berck and Liberman, 1975). However, since behaviours are largely influenced by the setting in which they occur, the instrument must be adapted to the particular setting in which one anticipates its use. This essentially means that one must determine the general baserates of the behaviours by observing each day for at least one week; these observations should be nearly continuous across the client's active hours on a ward or while (s)he is attending a day treatment programme. If this is not feasible, we arbitrarily suggest that each subject be observed at least twelve times each day while the instrument is being "calibrated" to a new setting; see Alevizos et al (1975) for further details.

**Inter-Observer Agreement**

Two trained observers are necessary for accurate observational recording. Intermittently, the second observer can provide an independent record of behaviour which is used to assess inter-observer agreement and to guard against deteriorations in observer performance. While it is desirable that two observers are present for most observations, at least one out of every five observations (20%) should be checked for agreement. Spot checks do not, however, insure accurate or consistent recordings; observers should receive special instruction and practical tests weekly to ensure optimal performance. When using two observers, the observation procedure differs only in that one observer is responsible for signalling the beginning and end of a subject's 5-second observation interval. A head-nod or raised finger or a tap of a pencil may serve as signals.

Agreement is calculated by summing all instances in which both observers completely agreed on the behaviours that occurred within the series of 5-second intervals, subtracting the number of those instances in which there were disagreements on behaviours that occurred and divide this by the total number of agreements plus disagreements of behaviour occurrence; multiply this quotient by 100 to get percent. The formula for inter-observer agreement may be summarised:

\[
\frac{(agreements\ of\ occurrence\ -\ disagreements\ of\ occurrence)}{total\ agreements\ and\ disagreements\ of\ occurrence} \times 100
\]
The formula yields what is termed the percent (effective) agreement between two or more observers.

A general unwritten rule is that observer agreement should be at least 80% before the observer can be expected to produce consistent recordings. However, many other factors influence observer performance and these should be considered in training and maintaining observers (see Alevizos et al, 1975).

Data Analysis

The BOI is a detailed behavioural-ecological scale encompassing many categories of behaviour. It also affords considerable flexibility in the retrieval and organization of observational data. By pooling various behaviour categories, individuals or groups of subjects can be assessed on scales which have particular clinical relevance. The following are some of the ways categories may be consolidated.

1. social participation (cades 10b & c, 12a, 13v &nv, 14v & nv 19a
2. consumptive behaviour (6, 7, 8a & b)
3. unusual or maladaptive behaviour (9b & 15a - 15d)
4. asocial (social isolative) activity (10a, 11, 12b, 16, 19c)
5. functional activity (10b & c, 17, 18)
6. "drowsiness" (4b, 5b and total number of concomitants)

The number of times a particular category of behaviour is observed can be graphed as either a frequency count or as a percentage of the total number of behaviours observed during either an observation period, during a block of several observation periods, or on a daily basis. Since the rates of behaviour are quantifiable, rate changes can be analyzed using common statistical techniques.
References


Patient Behaviour Codes of the HOI

I. MUTUALLY EXCLUSIVE BEHAVIOUR

1. Walking: Consecutively placing one foot (Leg) in front of the other at a rate which requires three seconds or longer to cover a distance of 10 feet.

2. Running: Consecutively placing one foot (Leg) in front of the other at a rate which requires less than three seconds to cover a distance of 10 feet.

3. Standing: 90% or more of bodily weight is supported by legs; one or both feet must be on the ground and immobile for three seconds or longer; category includes kneeling.

4. Sitting: One or more buttocks on chair or floor.
   (a) Eyes open: lids open and pupil-iris visible.
   (b) Eyes closed: lid closed and/or eyes completely covered by anything (hand, paper, hair) for two seconds or more.

5. Lying Down: Three-fourths of body length in horizontal position.
   (a) Eyes open: lids open and pupil-iris visible.
   (b) Eyes closed: lids closed and/or eyes completely covered by anything (hand, paper, hair) for two seconds or more.

II. CONCOMITANT BEHAVIOUR

6. Drinking: Consuming any digestible liquid using lips, followed by observable swallowing behaviour.

7. Smoking: Presence of lighted cigarette between fingers of hand, or between lips; or process of placing cigarette in mouth, or process of striking match and lighting cigarette.

8. Eating:
   (a) Meals: non-repetitive preparation of good (e.g. buttering bread) antecedant to consuming food within two minutes and/or: 1) placing food in mouth; 2) chewing; 3) swallowing.
   (b) Any edible being consumed during the non-scheduled meal times.

9. Receiving medications:
   (a) Appropriate: process includes any one or more of the following:
      1) holding medication in hand;
      2) placing medication in mouth;
      3) swallowing medication
(b) Inappropriate: acting out behaviour during medication period includes: physical and/or verbal refusal to take medication (regardless or consequences).

10. Grooming and washing:

(a) Oneself: includes one or more of the following: 1) washing any part of his/her body; 2) combing or brushing hair on head; 3) dressing or undressing; 4) applying makeup.

(b) Grooming other: includes one or more of the following: 1) washing any part of their body; 2) combing or brushing hair on head; 3) dressing or undressing; 4) applying makeup.

(c) Being groomed: includes one or more of the following: 1) washing any part of the body; 2) combing or brushing hair on head; 3) dressing or undressing; 4) applying makeup.

11. Reading/writing/looking through magazines: Eye contact with material for one second or more.

12. Recreational activities:

(a) Group: structured or unstructured game or play activity (e.g. playing cards, dancing) with one or more people.

(b) Solitary: structured or unstructured game or play activity with oneself (e.g. drawing with pencil and paper, solitaire, listening to transistor radio, etc).

13. v - Verbalization with other patient: Emitting any audible sound or the observation of lip movement concurrent with body orientation consisting of either: 1) eye contact ½ second or more; or 2) torso, head or shoulders oriented toward patient.

nv - "Being spoken to": Being object of 13v

14. v - Verbalization with other visitor or staff member: Emitting any audible sound or the observation of lip movement with concurrent body orientation consisting of either: 1) eye contact ½ second or more; or 2) torso, head or shoulder oriented toward staff or visitor.

nv - "Being spoken to": Being object of staff verbalization to patient.

15. Inappropriate behaviour:

(a) Perseverative behaviour: Small motor: "Unusual" facial and/or motor movement of the appendage(s) (waving hands in front of face). The above must be observable from 25 feet or more and must have no observable behavioural consequence. Gross motor: Repetitive gross motor movement (e.g., rocking, swaying, walking in circles) which has no observable behavioural consequence.
(b) Audible verbalization (noise, words, sentences) unaccompanied by either of the following: 1) eye contact; 2) torso, head or shoulder orientation toward another person; includes screaming and yelling.

(c) "Unusual" bodily contortions (defined as that behaviour(s) which deviates from societal norms): bodily contortion held for three seconds or more and involving one or more appendages and/or shoulder-trunk body parts (e.g. holding arms over head).

(d) Self-injurious motor activity: motor activity resulting in either 1) skin break; 2) observable burn (red skin); or 3) bruise.

16. **TV Watching**: The concurrent occurrence of the following two behaviours: 1) eye contact with TV for one second or more; 2) physical proximity to TV within a radius of 15 feet.

17. **Maintenance and work behaviours**: Unit housekeeping behaviour (e.g. cleaning ashtrays, sweeping, making beds, etc.) or off unit work behaviour (e.g. serving meals in cafeteria, yard work).

18. **Arts and Crafts**: Both being in craft room area and physically interacting with presented media.

19. **Attending group meeting**: Two or more patients are present in the group room with one or more staff members. The following describe the behaviours of the patient during the group session:

   (a) Active participation (talking, demonstrating)
   (b) Attending (head, body orientation with eye contact (one second or more) to target member).
   (c) Non attending (absence of behaviour cited in a & b).

20. **Other** (may include crying; affectionate or sexually associated gestures and activities).

21. **Off unit**: unavailable for observation.
Appendix 13

Course Certificate
Leicestershire Behaviour Therapy Course

This is to certify that

has successfully completed the

course and project in Behaviour Therapy
organised at Carlton Hayes Hospital

Course Organisers

Clinical Psychologists

Date
Appendix 14

Means and standard deviations

for 6 course tests, experiment 1
Appendix 14

Means and Standard Deviations for Exp. 1.  
(N = 41).

- Measures

<table>
<thead>
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<th>Phase</th>
<th>( \bar{x} ) &amp; S.D.</th>
<th>'C - Scale'</th>
<th>S.P.T.</th>
<th>K.B.P.Q.</th>
<th>A.T.Q.</th>
<th>F.A.</th>
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<td>( \bar{x} )</td>
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Appendix 15

Means and standard deviations for demographic data, with coding key.
### Appendix 15

Means and standard deviations for demographic data

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<th>Variable</th>
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<th>Mean (Exp.2 N=24)</th>
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<td>One full qualification</td>
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<td></td>
<td>(e.g., RMN, RMMS, SEN)</td>
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<td></td>
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<td>1+ 'A' level 3</td>
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<tr>
<td>Knowledge &amp; experience</td>
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<td>'very little' (read book, had a few lectures) 1</td>
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<td>'some' (all in code 1 plus some ward experience 2</td>
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<td>(e.g., programme)</td>
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<td>'quite a lot' (all in codes 1 &amp; 2 plus more reading &amp; ward 3</td>
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<td>involvement.</td>
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<td>'a great deal' psychology 'A' or graduate or extended ward 4</td>
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<td></td>
<td>Nurse therapist.</td>
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</table>
Appendix 16

Demographic data record sheet
Appendix 16
Demographic Data Record Sheet

Instructions:

Please provide the information requested below. As with all data collected in association with the training course your answers will be treated in the strictest confidence. We ask for this information as we need to know some basic facts about your background, e.g. the skills and experience you already possess. This, in turn, allows us to more properly evaluate our attempts to train you in behaviour therapy.

1. Name: ___________________________ 2. Date: ___________________________

3. Workplace in hospital: ___________________________

4. Job Title: ___________________________ 5. Age: ___________________________

6. Date of Birth: ___________________________ 7. Sex: M. F.

8. Job Qualifications: ___________________________

9. Other Qualifications: (e.g. school exams): ___________________________

10. How long have you worked in a Psychiatric Hospital: ___________________________

11. What knowledge or experience do you have of 'behaviour' therapy? (e.g. books, lectures, workshops, ward programmes participated in, etc.): ___________________________

____________________________________
____________________________________
____________________________________
____________________________________
Appendix 17

Core Course Manual
(revised, project-based format)
"CORE" COURSE MANUAL

An Introductory Course in Behaviour Therapy for Hospital Staff.

Derek Milne
Senior Clinical Psychologist, Stanley Royd Day Hospital, Aberford Road, Wakefield, WF1 4DQ

January, 1983
CONTENTS

1. Assessment Measures (pp 2-18),
   a) Guidelines for test administration
   b) Test record sheets and questionnaire

2. Timetable (pp 19-20)

3. Introductory Notes (pp 21-23)

4. The Core Course Steps (pp 24-73)
   For each step:
   a) Notes for course trainer (pink paper)
   b) Programmed Learning handout (white paper)
   c) Practicals (green paper)
   d) Miscellaneous handouts, record sheets etc. (green paper)

Acknowledgements

This manual was developed at Carlton Hayes Hospital, Leicester during 1980/82 with great assistance from Charles Burdett (Clinical Psychologist) and the nursing staff. The Leicester Health Authority supported the research from which this was derived. Wakefield Health Authority made it possible to produce copies of the manual. I am most grateful to Eileen Greaves and Val Donaldson for their patient secretarial support.
<table>
<thead>
<tr>
<th>MEASUREMENT</th>
<th>INSTRUCTIONS</th>
<th>MAXIMUM TIME ALLOWANCE (minutes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Demographic Data Sheet</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>b) Knowledge of Behavioural Principles Questionnaire (KBPQ)</td>
<td>State half-time (7½ mins.) and &quot;stop writing&quot; after 15 mins. Time from when item received by group.</td>
<td>15</td>
</tr>
<tr>
<td>c) Attitude to treatment Questionnaire (ACTQ)</td>
<td>State half-time and &quot;stop writing&quot;. Time from when group receive item.</td>
<td>8</td>
</tr>
<tr>
<td>d) Functional Analysis Form (F.A.)</td>
<td>Ask group to read instructions. State that &quot;after the video finishes there will be 2 minutes writing time&quot;. Start video once group have read and understood instructions.</td>
<td>10</td>
</tr>
<tr>
<td>e) Course Evaluation Form</td>
<td>Administer at end of Course</td>
<td>-</td>
</tr>
<tr>
<td>f) Structured Interview</td>
<td>Administered by third party within 1 month of course</td>
<td>-</td>
</tr>
</tbody>
</table>

N.B. All measures are handed out individually before each test and collected after each test.
INSTRUCTIONS:

Please provide the information requested below. As with all data collected in association with the training course, your answers will be treated in the strictest confidence. We ask for this information as we need to know some basic facts about your background, e.g. the skills and experience you already possess. This, in turn, allows us to more properly evaluate our attempt to train you in behaviour therapy.

1. Name: .................................................................

2. Date: .................................................................

3. Workplace in hospital: ...........................................

4. Job title: ..............................................................

5. Age: ................. 6. Date of Birth: .................

7. Sex: Male Female

8. Job qualifications: .................................................

9. Other qualifications, (e.g. school exams). ..................

10. How long have you worked in a Psychiatric Hospital?: ....

11. What knowledge or experience do you have of behaviour therapy? (e.g. books, lectures, workshops, ward programmes participated in, etc.)
Directions

Read each question and each of its four possible answers. Sometimes more than one answer could be correct under certain circumstances; however, you should select the best answer or the answer that is most generally true. Circle the letter of the answer you require.

Example

Probably the more important influence in a patient's life is his ...

(a) Cigarettes  
(b) Television  
(c) Sex  
(d) Friends

Please do not consult others while deciding how to answer the question. Be sure to fill in only one letter for each question. Be sure to answer every question even if you must guess.

--- 000 ---

1. Probably the most important idea to keep in mind when first changing behaviour is:

   (a) To use both reward and punishment.  
   (b) To reward every time the desired behaviour occurs.  
   (c) To be flexible about whether or not you reward.  
   (d) To be sure the patient understands why you want the behaviour to change.

2. A patient becomes disruptive when told he cannot go out. How should the nurse deal with this?

   (a) Ask the patient why going outside is so important to him.  
   (b) Explain that it is a nurse's right to make such decisions.  
   (c) Explain again why he should not go out.  
   (d) Ignore the disruptive behaviour.

3. In changing a patient's behaviour a nurse should try to use:

   (a) About one reward for every punishment.  
   (b) About one reward for every five punishments.  
   (c) About five rewards for every punishment.  
   (d) Practically all rewards.

4. Which of the following statements is most true?

   (a) People usually fully understand the reasons for their actions.  
   (b) People are often unaware of the reasons for their actions.  
   (c) People's actions are mostly based on logic.  
   (d) It is necessary to understand the reason for a person's behaviour before trying to change the behaviour.
5. If punishment is used for a behaviour such as window smashing, which type is probably best to use?

a. Make the patient do extra domestic work.
b. Clearly express your disapproval.
c. Remove the patient to a boring situation each time.
d. A reasonable punishment.

6. Nurses who use lots of rewards for good behaviour and few punishments will probably tend to have patients who:

a. Do not understand discipline.
b. Will not co-operate unless they are "paid".
c. Take advantage of their nurses.
d. Are well-behaved and co-operative.

7. Which of the following is the most effective in getting a patient to do domestic work?

a. "When you finish your domestic work you can watch TV".
b. "You can watch this show on TV if you promise to do your domestic work when the show is over."
c. "If you don't do your housework tonight, you can't watch TV at all tomorrow."
d. Explain the importance of housework and the dangers of putting things off.

8. Each time nurse starts to write, a patient begins making a lot of noise which prevents her from writing up notes. The best way for the nurse to get the patient to be quiet while she is writing is to:

a. Severely reprimand him when this occurs.
b. Pay close attention and praise him when he is quiet while she is writing and ignore his noisy behaviour.
c. Call him to her and gently explain how important it is for her to have a quiet time for herself each time this occurs.
d. Tell him that he won't get a cigarette after dinner if he continues.

9. A patient often cries when he is around the nurse. To try to find out why he cries, the nurse should probably first consider the possibility that:

a. He is trying to tell her something.
b. He needs more attention.
c. She is somehow rewarding his crying.
d. She is not giving him enough attention.

10. If a patient very gradually receives rewards less and less often for behaviour, what is most likely to happen?

a. He will soon stop the behaviour.
b. He will be more likely to behave that way for a long time.
c. He will not trust the person giving the reward.
d. None of the above.
11. In a problem solving group, the therapist gives each patient a reward plus praise for each correct answer. Which of the following statements are most true?

a. The reward is a bribe and doesn't belong in a therapeutic session.
b. At first the patients work to earn the reward and may later work for the praise alone.
c. Patients shouldn't be "paid" for responding to therapy.
d. It probably doesn't make much difference whether or not reward is used, because a patient who wants to improve would do so and the others won't.

12. To record, graph and note the direction of change of behaviour is:

a. A minor, optional step in a behaviour change programme.
b. An important step in the behaviour change programme.
c. A procedure employed only by scientists for research.
d. A time consuming and complicated procedure, therefore, these procedures should only be used in special cases.

13. Which of the following is most true about physical punishment?

a. It should immediately follow the undesirable behaviour and at full intensity.
b. It should be mild and immediately follow the undesirable behaviour.
c. It should begin in a mild form and, if that doesn't work, intensity should gradually be increased.
d. It is ineffective and inappropriate.

14. Which of the following is not an important step in a behaviour change programme?

a. Make certain the patient feels ashamed for his misbehaviour.
b. Decide on a particular behaviour that you wish to change.
c. If necessary, break the selected behaviour down into smaller steps.
d. Select a proper time and situation for measuring the behaviour.

15. Two patients fight constantly. Their nurses decide to praise them when they talk together nicely, however, they still continue to fight. Punishment may be necessary. What is probably happening?

a. They don't want the nurse's praise.
b. The benefits of fighting are stronger to them than their nurse's praise.
c. They have too much anger toward each other to control.
d. They are at a stage they will grow out of.
16. A nurse found punishing a patient did not seem to stop him from using naughty words. Rather than punishing him, she should send him to be by himself. The room he is sent to should be:

a. His own room, so he will still have something to do.
b. Small and dark.
c. As uninteresting as possible.
d. A large room.

17. Which reward is probably best to help a patient who is already beginning to learn to budget to improve?

a. A pound for each evening he studies budgeting.
b. A penny for each budgeting problem he works correctly.
c. Ten pounds for each successful attempt at budgeting.
d. A large present for passing budgeting tests for the rest of the year.

18. A nurse pays a patient twenty-five pence to remove the rubbish from the ward. If the nurse forgets to give the patient the money for a few days, what is most likely to happen?

a. The patient will continue to take out the rubbish because he realises how important this is.
b. The patient will stop taking out the rubbish.
c. The patient will begin to do extra work as well as taking out the rubbish, so that nurse will notice how well he is doing and remember to give him the money.
d. The patient will start to misbehave to take out his anger about not being paid.

19. The first step in changing a problem behaviour is:

a. Reward the patient when he is behaving nicely.
b. Punish the patient for misbehaviour.
c. Carefully observe the behaviour.
d. Seek help from someone who is more objective.

20. The patient has just torn up a new magazine. Of the following choices, which is the best way for the nurse to discipline him?

a. Tell him he will be punished later.
b. Punish him then and there.
c. Explain to him the wrongness of his action.
d. Angrily scold the patient so that he will learn that such an act is bad and upsetting to the nurse.

21. Which would be the best example of an appropriate way to praise a patient?

a. Well done.
b. I like you.
c. I like the way you helped me put the dishes away.
d. I will tell the Charge Nurse how nice you were when he comes on duty.
22. A patient sometimes says obscene words, but only in front of the sister. She has been shocked and makes her feelings clear to him. How should she react when he uses obscene words?

   a. Wash his mouth out with soap.
   b. Ignore him when he uses obscene words.
   c. Tell him how bad he is and how she doesn't like him when he uses those words.
   d. Explain to him the reasons such words are not used.

23. Punishment will not be effective unless you:

   a. Prevent the patient from escaping while you punish him.
   b. Throw all of your emotions into the punishment, so the patient will realise how serious you are.
   c. Follow it with a careful explanation of the reasons for the punishment.
   d. Have tried everything else.

24. Which of the following is probably the most important in helping a patient behave in a desirable way?

   a. To teach him the importance of self-discipline.
   b. To help him understand right and wrong.
   c. Provide a system of consequences for his behaviour.
   d. Understanding his moods and feelings as a unique person.

25. How often a behaviour occurs is probably mostly controlled by:

   a. The person's attitude about his behaviour.
   b. What happens to him at the same time the behaviour occurs.
   c. What happens to him just before the behaviour occurs.
   d. What happens to him just after the behaviour occurs.
Directions.

Read each question and each of its four possible answers. Sometimes more than one answer could be correct under certain circumstances. However, you should select the best answer or the answer that is most generally true. Circle the letter of the answer you require.

Example:

Probably the most important influence in a patient's life is his...

a. Cigarettes
b. Television
c. Sex
d. Friends

Please do not consult others while deciding how to answer the question. Be sure to fill in only one letter for each question. Be sure to answer every question even if you must guess.

1. Desirable and undesirable behaviour are most alike in that they are:
   a. The result of emotions.
b. Habits and therefore difficult to change
c. Ways the patient expresses himself
d. The result of learning

2. Most problem behaviour in patients is probably:
   a. A reaction to deeper emotional problems.
b. Due to lack of communication in the ward.
c. Accidentally taught by the nursing staff.
d. Due to a stage which they will outgrow.

3. Which of the following is most important for nurses in controlling their patients' behaviour?
   a. The rules the nurses make about behaviour.
b. The nurse's understanding of the patient's feelings.
c. The behaviours to which the nurse attends.
d. Being strict but also warm and gentle.

4. Which of the following is the least likely way for a patient to react to the person who punishes them?
   a. The patient will try to avoid the punisher.
b. The patient will have admiration and respect for the punisher.
c. The patient may copy the punisher's methods and do similar things to friends.
d. The patient will associate the punishment with the punisher.
5. If you are trying to teach a person a communication skill.
   a. Reward the patient after speaking a sentence.
   b. Reward the person for saying a word.
   c. Reward the patient for any vocalization.
   d. Punish the patient if he did not speak.

6. A patient has been rewarded each time he cleans his room.
   In order to keep the room clean without having to use a reward, the next step should probably be to:
   a. Have a talk about how pleased you are and then stop giving the reward.
   b. Give the reward about one out of five times.
   c. Give the reward almost every time.
   d. You must always reward it every time.

7. When should a patient who is just learning to dress himself be praised the first time?
   a. When he gets his foot through the first hole in his underwear.
   b. When he gets his underwear completely on.
   c. When he asks to do it himself.
   d. When he has completely finished dressing himself.

8. Three of the following responses refer to forms of punishment which are mild and effective, which one is not?
   a. Ignoring the undesirable behaviour.
   b. Sending the patient to a dull room for a few minutes.
   c. Taking away something the patient likes (such as dessert after supper).
   d. Scolding.

9. Which of the following is the most effective form of punishment in the long run for reducing the patient's undesirable behaviour?
   a. Scolding him every time he does it.
   b. Occasionally punishing him when he does it.
   c. Sending him to his room for 5 mins. every time he does it.
   d. Sending him to his room all afternoon every time he does it.

10. A good rule to remember is:
   a. Do not reward with money if possible
   b. Catch a patient doing something right.
   c. Reward good behaviour and always punish bad behaviour.
   d. Punishment is always necessary.
11. Which of the following is true about punishment?
   a. Punishment teaches respect.
   b. Punishment should be delayed until it can be carefully determined that it is really necessary.
   c. Punishment can teach a patient new behaviours.
   d. Some punishments can result in a patient becoming aggressive.

12. A patient loves football. What is most likely to happen if, each time he is talking with another patient, the nurse invites him to play football?
   a. He will always be asking the nurse to play football.
   b. He will talk nicely with the other patients more often.
   c. He will be annoyed with the nurse for interfering with his activity.
   d. He will be encouraged to teach other patients to play football.

13. A nurse is teaching a patient to hit a thrown ball with a bat. Which of the following methods will probably most help this patient to learn to hit?
   a. Let him try to hit the ball without saying anything so the patient can learn on his own.
   b. Occasionally tell him what he is doing wrong.
   c. Occasionally tell him what he is doing right.
   d. Tell him almost every time he does something right.

14. Punishment, as a way to get rid of undesirable behaviour, is best used when:
   a. When you are very upset.
   b. You want to teach the patient the right way to behave.
   c. The behaviour may be dangerous.
   d. Scolding doesn't seem to be effective.

15. If you want a patient to develop proper work habits, you should:
   a. Encourage him to work.
   b. Help him to see his work place is pleasant.
   c. Reward him whenever he works.
   d. Give him good reasons why he will need to work.

16. A patient often cries over any small matter that bothers her. How should the nurses react to best reduce her crying?
   a. Reward when she reacts without crying.
   b. Use a mild punishment when she cries.
   c. Try to find out what is really troubling the patient and deal with that.
   d. Provide her with something interesting so she will stop crying.
17. If you want a patient to say please and thank-you at the table, it is probably most important to:
   
a. Reprimand him when he forgets to say them.
b. Explain why good manners are important.
c. Remember to compliment him when he remembers to say them.
d. Praise other patients when they use these words.

18. A major problem has been getting a patient to bed in the evening. The nurse has decided to change this and wants to measure the relevant behaviour. Which is the best way for her to do this?
   
a. Each evening record whether or not he goes to bed on time.
b. Chart his behaviour all day long, up to and including bedtime, to try to find out what causes his not wanting to go to bed.
c. Each week make a note of how easy or difficult it has been to get him to go to bed.
d. Ask the patient to keep his own record each week.

19. A nurse tells a patient he cannot go out because he didn't clean his room like he promised. He reacts by shouting, crying and promising he will clean his room later. What should the nurse do?
   
a. Ignore him.
b. Take him out but make him clean his room when they return.
c. Calm him down and help him clean the room.
d. Talk to him and find out why he does not take responsibility.

20. In changing a behaviour it is most important to use:
   
a. Methods which have been tested by others.
b. Consequences which are rewarding to the patients.
c. Consequences which are punitive to the patients.
d. Rewards which do not bribe the patient.

21. A patient is doing a number of things that greatly disturb the nurse. It would be best for the ward staff to:
   
a. Try to quickly eliminate all these undesirable behaviours at once.
b. Select just a few behaviours to deal with first.
c. Select a single behaviour they find most disruptive and concentrate on that.
d. Wait for 28 to 30 days before beginning to try to change his behaviours to make certain they are stable and persistent.

22. Listed below are four methods used to change behaviour. Which is usually the best technique to get a patient to stop smoking in bed?
   
a. Punish the undesired behaviour.
b. Ignore the behaviour.
c. Reward the patient for desirable behaviour in a situation in which he usually misbehaves.
d. Explain to the patient why the behaviour is undesirable.

23. If you want to make a behaviour a long lasting habit, you should:
   
a. Reward it every time.
b. First reward it every time and then reward it occasionally.
c. Promise something the patient wants very much.
d. Give several reasons why it is important and remind the patients of the reasons often.
24. The most likely reason a patient misbehaves is because:
   a. He is expressing angry feelings which he often holds inside.
   b. He is about to misbehave.
   c. He was born with a tendency to misbehave.
   d. He has not been properly told this behaviour is wrong.

25. A patient often screams for several minutes and gets the nurses attention. Which of the following is probably the best way for the nurse to reduce the screaming?
   a. If there is nothing physically wrong with the patient, ignore his screaming even though the first few times he screams even louder.
   b. Distract the patient with something he finds interesting whenever he screams.
   c. Ignore all noises and sounds the patient makes.
   d. None of the above. Patients usually have good reasons for screaming.
**Instructions**

Set out below are some activities which may be part of a nurse's job. Please indicate how much you would agree or disagree with a nurse working in this way. This questionnaire is in the form of statements with which you may agree or disagree more or less strongly. We should be grateful if you would indicate your answer by putting a circle round the appropriate letters, which are explained as follows:

- **SA** Means strongly agree.
- **A** Means agree or tend to agree.
- **U** Means uncertain whether you agree or disagree.
- **D** Means disagree or tend to disagree.
- **SD** Means strongly disagree.

Please answer all the questions.

1. Making sure that patients don't have time to think about their problems.  
2. Observing patients' behaviour in order to report to doctors.  
3. Suggesting to patients the underlying reasons for what they (the patients) say and do.  
4. Talking to the patients and trying to get to the root of their problems.  
5. Keeping discipline on the ward.

(The following are statements about the types of treatment, the patients and the staff in a hospital such as this. Please indicate how far you agree or disagree with the statements:—)

6. The doctor's knowledge makes them the only people capable of treating the patients.  
7. Patients should not talk about their problems to anybody except the doctor.  
8. The point of a patient being in hospital is to have his mind taken off his problems.  
9. Nurses should have no part in the decisions made about how a patient should be treated.  
10. Physical treatments (tablets, electrical treatment etc.) are on the whole more effective than any other kind of treatment.
11. The doctor's knowledge and experience means that he is the only person capable of keeping treatment on the right track.

12. Patients should be encouraged to take an active part in the planning and organisation of the ward.

13. The nurse's main responsibility is to keep the ward tidy, clean and in good order.

14. Treatment in psychiatry is a scientific technique and should not involve the doctor's feelings.

15. Nurse-patient relationships can be just as effective in treatment as doctor-patient relationships.

16. Nurses should always consult the doctors about the best way to handle a patient.

17. The aim of treatment should be to rid patients of psychiatric symptoms, not to change them as people.

18. It's more important for patients to talk about their relationships within the ward than to talk about their relationships outside.

19. Physical treatments are a means of getting through to patients but not a cure in themselves.

20. By and large psychotherapy is a waste of time.

21. One of the most important things in treatment is to establish the correct diagnosis.

22. Doctors should be able to alter their decisions about patients as the result of listening to the nurses' view.

23. Physical treatments.

24. Discipline.
F.A. FORM

NAME: ___________________________ DATE: ___________________________

Instructions:

You will shortly have the opportunity to watch a brief strip of film showing a patient at a table. The film will be shown three times.

1. On the first showing simply decide which behaviour you are going to count. Write this below, beside 'behaviour'.

2. On the second showing try to make an accurate record of how often the behaviour occurs. Write this into column one below marked 'how often'.

3. On the third and final showing of the film try to record things that seem to be related to the behaviour you have decided to observe. Write these into the columns 'before' and 'after' below, depending on whether the related things you observe precede or follow the behaviour.

<table>
<thead>
<tr>
<th>Behaviour:</th>
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<tbody>
<tr>
<td>HOW OFTEN?</td>
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</table>
COURSE EVALUATION:  
TEACHING METHODS.

Instructions: We would be most grateful if you could complete the matrix below. As you will see, it asks you to rate, between 0 (not at all) and 4 (a very great deal), if you considered the lectureettes 'not at all helpful' you would enter '0' in the top, left-hand box of the matrix.

Rating scale:
0  not at all
1  To a small extent
2  No opinion/in between
3  To a large extent
4  A very great deal

<table>
<thead>
<tr>
<th>Lectureettes.</th>
<th>USEFUL</th>
<th>INFORMATIVE</th>
<th>WOULD RECOMMEND TO MY COLLEAGUES</th>
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</thead>
<tbody>
<tr>
<td>Question &amp; Answers.</td>
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<tr>
<td>Discussion.</td>
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<td>Role-play.</td>
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<td>Practicing.</td>
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<td>Written exercises.</td>
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<td>Programmed Learning Scripts.</td>
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<td>Demonstration Video tapes.</td>
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<td>Video tape feedback.</td>
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<tr>
<td>Overall course.</td>
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**COURSE EVALUATION: STRUCTURED INTERVIEW**

**Instructions:** I would welcome your comments on certain aspects of the core course you have now completed. Your replies will be treated confidentially and anonymously.

1. Did you want to attend the workshop? Yes/No.

2. Are you glad you did? Yes/No.

3. In which of the following ways do you think the course may have helped you:
   a) Made work more interesting? Yes/No
   b) Led to your feeling more competent? Yes/No
   c) Improved your work skills? Yes/No
   d) Increased your chances of job advancement? Yes/No
   e) Improved your understanding of your patients? Yes/No
   f) Other reasons? ..................................................

4. Was there any way in which you think the course was unhelpful? Yes/No
   If 'yes', in what way? ...........................................

5. In what ways do you think the course could be improved:
   a) Changed content? Yes/No.
      (if yes - say how) ..........................................
   b) Different way of teaching? Yes/No.
      (if yes - say how) .........................................
   c) Shorter? Yes/No.
   d) Longer? Yes/No.
      (if yes - what would you include?)

6. Do you think that the course altered your attitude to your patients in any way? Yes/No.
   (if yes - in what way?) ........................................

7. In terms of helping your patients, how important do you think Behaviour Therapy is?
   Rate reply as:
   1. Unimportant.
   2. Quite useful.
   3. Very useful.
      (indicate alternative best treatment).

8. Other comments on course:

   ++++++++++++++++++++++
CORE COURSE: TIMETABLE

**DAY ONE**

09.00 - 10.30 a.m. Pre-tests and introduction
10.30 - 11.00 a.m. Coffee Break
11.00 - 12.00 Step 1: Applications of Learning principles
12.00 - 1.00 p.m. Lunch Break
1.00 - 1.30 Step 2: Defining and Describing behaviour
1.30 - 4.00 Step 3: Recording behaviour

(2.30 - 3.00 p.m. Tea Break on the ward)

**DAY TWO**

09.00 - 10.15 a.m. Step 4: Observational techniques.
10.15 - 10.45 Coffee Break
10.45 - 12.00 Step 5a: Baseline records and graphing.
12.00 - 1.00 p.m. Lunch Break
1.00 - 2.30 Step 5b: Baseline records and graphing continued. Individual reading and tuition phase.
2.30 - 3.00 Tea Break
3.00 - 4.00 Step 6: Classical conditioning

**DAY THREE**

09.00 - 10.30 a.m. Step 7: Operant conditioning
10.30 - 11.00 Coffee Break
11.00 - 12.00 Step 8a: Types of consequences.
1.00 - 2.00 p.m. Lunch Break
2.00 - 4.00 Revision, individual tuition.

**DAY FOUR**

09.00 - 10.30 a.m. Step 8b: Use of consequences
10.30 - 11.00 Coffee Break
11.00 - 12.00 Step 8c: Use of consequences.
12.00 - 1.00 p.m. Lunch Break
1.00 - 2.30 Step 9: Shaping, prompting, modelling and fading.
DAY FOUR CONTINUED

2:30 - 3.00  Tea Break
3:00 - 4:00  Step 10: Chaining

DAY FIVE

09:00 - 10.30 a.m.  Step 11a: Planning programmes
10.30 - 11.00  Coffee Break
11.00 - 12.00  Step 11b: Planning programmes.
12.00 - 1.00 p.m.  Lunch Break
2.00 - 3.30  Post test.
3.30 - 4.00  Tea Break

END OF COURSE
CORE COURSE
INTRODUCTION

a) Why do a course in Behaviour Therapy?

The purpose of this course is to pass on some of the skills of Behaviour Therapy to staff involved in managing patients. There are at least three major reasons for attempting this course.

1. The interest of different staff groups in acquiring Behaviour Therapy skills and knowledge.

2. The great need for such groups to take a treatment role. This is in order to deal with the huge demands placed upon the N.H.S. for treatment.

3. Behaviour Therapy can be taught and practised more readily and effectively than traditional alternatives.

Taken together, these and other reasons have led to the development of a large number of training courses. These have involved just about every staff group, and they have focussed on diverse 'patient' types. The evaluation of these training courses has shown that these different groups can learn to correctly apply Behaviour Therapy. This benefits the 'patients' and staff alike.

b) Assumptions of Behaviour Therapy.

Behaviour Therapy differs from other forms of treatment in a number of often radical ways. These are sometimes unacceptable to people at first. We would ask that you do not allow your first impressions to put you off, and that you allow yourself to become more thoroughly acquainted with Behaviour Therapy before making any decisions about how acceptable it is to you.

Some of the assumptions and premises of Behaviour Therapy that concern people are that:

(a) it treats people objectively or "as being like machines",

(b) it emphasises the role of the environment, as opposed to "free-will" in controlling our behaviour,

(c) it attempts to change people's behaviour,

(d) it necessitates value - judgements about what, how, where and when this change should occur, and to whom,

(e) it views behaviour as learnt. The idea of "mental Illness" is discarded as unhelpful to treatment in a lot of cases.

Of course, other aspects of our lives may involve some or all of these assumptions. Work might be an example of this, where often other people control our behaviour. The distinctiveness of Behaviour Therapy comes from its explicit use of these assumptions to help people change.

c) The 'Core' Course.

The core course is intended to be an introduction to some basic aspects of behaviour therapy. These include assessment and learning techniques as they apply to psychiatric and mental handicap in-patient groups. Each aspect is covered in a 'step'. There are eleven steps in the whole course. These steps will be taught one at a time. The teaching method we have adopted is called 'active'. This is because it involves you, the trainee, 'prime therapist' in doing things. The traditional classroom 'chalk and talk' type method will be used as little as possible. In its place we intend to allow you to discover and practise the important ideas and techniques of Behaviour Therapy.
c) The 'Core' Group. (Cont'd)

So role-play ('acting') and 'practicals' will be the main methods of learning. You will, though, receive a hand-out written summary of each step, and we will also make some use of lectures, discussions and 'models' on video and 'live'.

We also intend to assess your understanding of and ability to apply each of the steps. To do this we will use quizzes, and other practical tests. Before reading this you will have already completed one set of these tests. When the course finishes there will be another set of tests to do. These are absolutely essential, as they let the course organisers know that to change and improve the course.
INSTRUCTIONS:

For each step there is a written summary. In order to help you to learn the important ideas of each step we have used a format known as "programmed learning".

All this means is that instead of writing a continuous and complete summary we have repeated the key ideas, omitting some of the key words. This requires you to think of the appropriate word and so complete the sentence. After you have decided what the word should be, check with the answers on the bottom of the sheet. (Note – this is not a quiz. You will only be cheating yourself if you look at the answers before you decide on your own solution.) If you chose the correct word go on to the next sentence. If not repeat the sentence until you get the correct word. By concentrating on what you read you will always have had enough information to supply the missing words. If you find yourself unable to find the correct word, you will probably have to admit that you have not been concentrating. The dashes under each missing word indicate the number of letters it has, so this should help you to find the correct answer. For example, ___ tells you that the answer must be a four letter word.

Lastly, the numbers before each blank allow you to go to the list of missing words and find the correct one quickly once you have made your response. By the end of the course you will probably recognise that behaviour therapy makes wide use of these principles.
STEP 1.

TRAINERS NOTES

"APPLICATIONS OF LEARNING PRINCIPLES"

Slides
Briefly present slides so as to preview the steps.

Blackboard.
Draw A - B - C sequence, with example (e.g. a = open bathroom door, b = taking a bath, and c = feeling refreshed and obtaining nurses attention).

Discussion
Point out how the 'A' and 'C' control the (bathing) behaviour ('B'), in so far as their absence would either prevent it from occurring or lower its frequency etc.

The 'A' and 'C' often, if not always, work jointly to control behaviour and programmes should plan for this (e.g. by arranging new cues when providing new consequences).

Also discuss the broad diagnosis of patients 'problems' into 'excess' or 'deficit' in behaviour therapy. Suggest that this is worthwhile, since (unlike psychiatric diagnosis) it indicates:

(a) what an individual patient's problem is, in a unique way, and,

(b) suggests treatment options.

Additional points may include: the often 'mechanical' or artificial nature of behaviour therapy in the early stages of some programmes, but how this should alter towards a more 'natural' relationship; and how adjuvant use of medicine can be helpful in running a programme (e.g. anxiolytic drugs).

The trainees are asked to state any difficulties or misunderstandings they may have been to date. It may be helpful to use local examples of applications, or to request these.
Behaviour therapy is a new form of treatment. It is different in a
number of ways:

Odd behaviours are not seen as symptoms of mental illness. These
responses are influenced by learning. That is, by experience. This
view means that we can do more to help patients. New learning
experiences can be arranged. Behaviour therapy is the systematic
way to do this. It is done by changing the environment. This includes
people. Therefore, the things that control 'odd' behaviour can be
changed. It follows from this that the patient then changes. The idea
of 'disease' or 'illness' is not a help. On the other hand the idea of
learning turns us to ways of helping patients. Odd behaviour is thus
seen as due to (1) _________, and behaviour (2) _________ is a
systematic way of arranging for learning (3) _________.

We do this by changing the (4) _________, including (5) _______.

This learning view suggests then that the only real difference between
'odd' and 'normal' is the kind of experiences a person has had. Also
important is the current context of responses. These include any
factors which influence the behaviour at present. There are thus no
differences between what controls the 'normal' or the (5) ______
person's behaviour. The goal is the same too, to improve a person's
ability to function effectively.

'Behaviour Therapy' by definition is treatment for behaviour. So we are
treating the observable such as aspects of shopping or eating. We are
not trying to change the unobservable. (An example of this is
'insecurity').

As its methods are clear and straight-forward, behaviour therapy can be
applied by non-psychologists. This compares with approaches such as
psycho-analysis. In fact, many nurses believe that they have been
using behaviour therapy for years, without giving it this name. Evidence
suggests that this is partly true, but that nurses do lack most of the
necessary skills and understanding to do behaviour therapy.

Because it is objective, the results of behaviour therapy are also
clear-cut. So the risk of it being misapplied are less. Our records
and graphs will tell us what effect we are having on the patient.

The two types of learning techniques that are used in behaviour therapy
are Classical and Operant. Another word for learning is conditioning.
Thus, we get Classical and Operant conditioning. These are the topics
of later steps.

Behaviour therapy has been used to help patients with a wide range of
'problems'. We can class these problems as either due to a 'deficit'
or an 'excess' of responding. A deficit problem would be anything a
patient could learn to do to be more independent. Dressing, feeding,
mobility and language are broad areas of deficit. When a patient could
learn something new we describe the problem as being one of a
(7) _________ of responding. An example would be (8) _______.

cont.
'Excess' problems include behaviours that already exist and prevent a patient from living independently. Examples in rehabilitation are found in 'symptomatic behaviour'. Compulsive repetition, bizarre movement and frequent screaming are instances. Behaviour therapy might use learning principles to change these. In the case of bizarre movement the nurse could first observe the patient. Every time a specific type of action occurred the nurse could punish the patient. Better still, every time the patient does something useful that prevents him making the bizarre action the nurse could reward him. Other ways of dealing with responses are covered later. Thus 'excess' responses are those that already exist and that we want to (9) ... ...

Summary: Behaviour therapy is new and different from traditional methods. It focuses on behaviour. This behaviour is seen as due to learning, not to illness. This allows us to look for ways of providing learning experiences for patients. The two main ways of learning are via operant and classical conditioning. They can be applied to problems of excess and deficit in the patient's behaviour.

Missing Words

1. Learning
2. Therapy
3. Experiences
4. Environment
5. People
6. 'odd' or 'mad'
7. Deficit
8. Feeding/Dressing
9. Change/Prevent
"DEFINING AND DESCRIBING BEHAVIOUR"

**Lecture:**
1) Behaviour is defined in terms of that which can be observed.

2) An explanation is given as to what the word 'subjective' means.

3) An explanation is given as to what the term 'objective' means.

4) An example is given of an item that is subjective, followed by an example of something objective, within the same field. (The example that has often been used has been the term: 'aggressive' behaviour for the subjective term and a description of an aggressive act as the objective term).

**Blackboard:** The blackboard is not used in this lecture, however, a slide of the definition of behaviour is used and is read out and explained.

**Discussion:** Discussion focuses upon the distinction between objectivity and subjectivity, with members of the group giving examples.
STAGE 2: DEFINING BEHAVIOUR

'Behaviour' is what people do. It includes what we can see or 'observe' another person doing. For example, opening a door, or sitting in a corner. The important point is that we only call something 'behaviour' when we can (1) _______ it. So day-dreaming or thinking are (2) _______ 'behaviours'.

These things could only be 'guessed' at on the basis of behaviour alone.

Such a guess would be a 'subjective' definition of behaviour. 'Subjective' means that we, the observers, are 'interpreting' what someone is feeling or thinking on the basis of what we can see. In contrast, an 'objective' 'behavioural' definition does not need guess-work. So all observers can agree on what behaviour took place. This agreement allows us to accurately record behaviour. In making an 'interpretation' we are being (3) _______. We have gone beyond what we can (4) _______. It is only when we describe behaviour in (5) _______ terms that we can all (6) _______ on what has taken place.

If we tried to record things like 'confidence', 'hostility' or 'hallucinating' we would no doubt get a lot of disagreement between observers. This is because they are subjective definitions. If instead we define these behaviours objectively we would probably improve agreement. Examples of the two types of definition are as follows:

'Subjective'                                  'Objective'
1. "He has lost his confidence"                He did not work between 11 a.m. and 12 a.m. at O.T. He sat looking out of the window. He did not talk to anyone.
2. "She seems hostile"                         She smashed an empty plate on the dining-room floor at 1 p.m.
3. "He was hallucinating"                     He sat alone talking in a corner of the ward.

(Recording is the topic of Step 3)

Another feature of behaviour as we have defined it is that it is something we do in the environment. We behave, or emit responses, in order to act on the things or people around us. Such behaviour is called 'operant'. 'Behaviour' then is a way of acting on the (7) _______. That is to say, we 'operate' on the environment by emitting (8) _______. Reflexes, that is responses that are elicited by the environment, are different. They occur when something happens to a person. That person does not have control over the reflex. With operant behaviour the individual is in control, attempting to influence the environment. When a behaviour, or 'response', is elicited we mean that the environment (9) _______ on then. They are passive and simply react.

Summary:

'Behaviour' has been defined as that which we can observe others doing. It is therefore objective, as everyone can agree on its occurrence. Behaviour is also under our own control, and we use it to act on the environment.

               2. Not  5. Objective  8. Responses
**PRACTICAL**

### Task 1:
To describe behaviour viewed on a video film in clear, operant terms.

### Method:

1. The course trainer demonstrates a behaviour description by illustrating on the blackboard the use of a clear, operant definition. This can be e.g. his own "teaching behaviour", including perhaps gestures and other non-verbal behaviour and speech form. Vague and subjective (unobservable, inferential) terms first to be highlighted as such, then replaced by a clear (e.g. including a measure of frequency etc.) operant alternatives.

2. Divide the class into two groups, 'a' and 'b'. Group 'a' is asked to stay in the room, group 'b' to leave it for the present.

3. Group 'a' then view the first video film and attempt (individually) to write a behavioural description of what took place.

   They then leave the room to discuss and write out a group consensus description.

4. Group 'b' then go through the same process, having viewed the second video film. They remain in the training room to write the final, group decided version.

5. Once both groups have completed their written descriptions these are then given to the other group to read, then act out. Thus, group 'a' s description is given to group 'b', who read it then nominate from amongst themselves the required number of people to act it out. This illustrates any vagueness or "subjectivity" in the description.

6. Once group 'b' have done this, both groups view the first video. This provides an immediate contrast with the role-played version, highlighting any discrepancies, which can be raised in the discussion section.

7. Next, group 'b' receive group 'a's description and the same process is repeated (steps 5 and 6).

8. During discussion, each group can be encouraged (if necessary) to "defend" its description. Better descriptors can be discussed, as can individual versus group descriptions of the same video film.

### Aim:

Practice in using a behavioural definition and of evaluating and modifying this in light of group feedback.
Task 2: Select and describe a patient's behaviour (excess) or lack of it (deficit) in the ward setting.

Method: Return to own ward and as participant or non-participant observer focus on a problem area and try to write a behavioural description of it. Bring these descriptions back to the class-room for discussion.

Aim: (a) To choose a suitable problem as the basis of future practicals (and perhaps the project).

(b) To describe problems objectively.
Use of Blackboard.

Definition of step shown on slide during lecture.

**Slide:**

**Step 3**

**RECORDING BEHAVIOUR**

**Discussion Topics.**

1. Regarding (c) above; discuss what to record out of the stream of behaviour. The clinical importance being one criterion for selecting the 'A', and other criteria for selecting the 'B'.

2. To show steps involved in making a - b - c type record.

   a) Select a target response.

   b) Describe it. (B) - (explain frequency, duration, intensity).

   c) 'rebuke' (don't ask for a cigarette again).

   Once the practical is completed, subjects can state the antecedents, target responses (with frequency count) and consequences they recorded.

   a = course trainer having cigarette, (or appearing on the scene etc.)

   b = patient's request for a cigarette, including a scene etc.

   c = 'rebuke', (don't ask for a cigarette again).
Records are an account or description of an operant response over time. The examples of an objective definition given in Step 2 are therefore only the first stage. We also need to note how these behaviours occur over periods of time such as days or weeks. Such a record is very important. It allows us to compare the patient's past and present behaviour. This, in turn, tells us whether our therapy is effective or not. An accurate account of behaviour over time can be made using a (1) _______. Before we can make a record, though, we need to (2) _______ the problem. Once we have defined the response we wish to observe, we can record it over several consecutive (3) _______. This provides an indication of how our behaviour (4) _______ is working.

In order to make accurate recordings we have to define behaviour objectively. We also have to be very specific or precise. It is not easy for observers to agree on the occurrence of vague events. So we have to state specifically what we wish to record. Only by being (5) _______ in our definition of behaviour can we hope to make an (6) _______ record. Also, in addition to being objective, we need to be very (7) _______.

We call a specific, objective behaviour that we want to change a 'problem'. This is what we record, for this is what our therapy is aimed at altering. Our records will tell us whether therapy is effective in changing the (8) _______.

This problem is typically recorded in terms of either its frequency or duration. These are two different measures of behaviour. An example where either or both might be used would be gazing out of the window at 0.1. It would be possible to record the duration of looking out of the window (say a total of 30 minutes every hour) and the frequency of this behaviour (which might be 6 times in an hour). The preferred method of recording target behaviours will vary with the aim of the therapy. It will also depend on what it is practically possible to record. The guiding principle is to ensure that what is being used to measure the problem (duration or frequency) is actually most relevant to the problem at hand. Frequency and (9) _______ are two (10) _______ of the problem.

The things that happen before a problem are often called 'antecedents' 'cues' or 'triggers'. This is to suggest how they 'set off' the behaviour. The possibility that they are involved in this way makes recording them crucial. If we ignore them we may fail to adequately understand what is controlling the behaviour. It may be, for example, that 'smashing plates' is always set off by another patient attempting to take the plate away. Equally, we need to know what follows immediately after the response. That is, what are the consequences for the patient smashing plates? Is it ignored, or does a nurse or another patient react in some way?
This is vital information which the record must contain. Sometimes
Cues or (11) ________ 'trigger' a (12) _________.
They are thus important factors to (13) ________ or measure, for
they may control the problem. Perhaps more commonly, the things that
happen immediately (14) ________ a response serve to (15) ________
it.

A standard record sheet, therefore, will look something like this:

<table>
<thead>
<tr>
<th>Date &amp; Time</th>
<th>Antecedent</th>
<th>Behaviour</th>
<th>Consequence</th>
</tr>
</thead>
</table>

The first letters of the three major headings give us A-B-C, and thus
this type of sheet is called an A-B-C record. Under 'behaviour' we can
note frequency and/or duration of a given problem. The letters A-B-C
stand for (16) ________ behaviour and (17) _________.

Summary

Records are precise descriptions of a specific behaviour. They permit
careful comparisons of a patient's past and present performance, allowing
us to evaluate the effect of our attempt to help. Because this is based
upon specific and objective descriptions of behaviour, other people can
readily help with the measurement process. A-B-C records add potentially
vital information by detailing what happens immediately before and
after a response.

Missing Words

1. Record
2. Define
3. Days
4. Therapy
5. Objective
6. Accurate
7. Specific
8. Problem
9. Duration
10. Measures

11. Antecedents
12. Problem
13. Record
14. After
15. Control
16. Antecedent
17. Consequences
PRACTICAL

STEP 3: "RECORDING BEHAVIOUR"

Task 1: To select and record a target response, including antecedents and consequences.

Method

Subjects form two groups and view Role-Play.

1. The course trainer demonstrates how to make an A-B-C type of recording, based on a role-play of a 'patient' coming up to him and asking for a cigarette. The antecedent can then be defined as course trainers arrival on the scene, the behaviour as asking for a cigarette, and the consequence as not receiving a cigarette but a rebuke (e.g. don't ask for a cigarette again). This can be written in record form on the blackboard.

2. Each group then views the 'example' from S.P.T. decides amongst themselves which response to record. All subjects then record the selected response independently on an A-B-C sheet. Following this all results are compared and discussed.

   a) The reasons each group had for selecting a given response; (e.g. was it clinically important?).

   b) Differences between individual records, in terms of each of A-B-C. (Inter-rater reliability, observable antecedent and consequent stimuli).

   c) Place interpretation/speculation for target response in 'other information' column. Discuss range of interpretations.

Aims

To practice narrowing down the 'stream' of behaviour to one clinically episode to practice making an A-B-C type of record, and to appreciate some of the problems involved and the ways of minimising those (e.g. by having a clear and agreed behavioural definition).

Materials Required

1. A-B-C record sheets.
2. S.P.T. video-tape.

Task 2: Start to obtain A-B-C baseline data from selected patient/problem on ward.

Method and aim

As for Step 1.
<table>
<thead>
<tr>
<th>Date and Time</th>
<th>Describe the Behaviour</th>
<th>What happened before it?</th>
<th>What happened to the patient immediately after it?</th>
<th>Other information or comments</th>
</tr>
</thead>
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STEP 4

TRAINERS NOTES
"OBSERVATIONAL TECHNIQUES"

Slide: Definition of step shown on slide during lecturette.

Use of Blackboard Based on the preceding practical (Step 3).

Write up on the board the target responses selected by the group and raise the question of exactly (or approximately!) how best to record the problems.

<table>
<thead>
<tr>
<th>Subject</th>
<th>Target Response</th>
<th>Most Suitable Observational Method</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Frequency, Intensity, Duration, Sampling, Rating, Checklists.</td>
</tr>
</tbody>
</table>

Discussion:

a) Of different target responses that will probably have been selected.

b) Appropriateness of these, bearing in mind clinical importance of different responses.

c) Discuss the observational measures used by subjects, especially where subjects have used different ones to record similar target responses.

d) Discuss the appropriateness of these, bearing in mind practicalities versus the need for an accurate (valid, reliable) record.
There are different ways in which we can record behaviour. We have already mentioned frequency and duration. One could also record a patient's ability to do something. Also, we could record the quality of that response. These four types of observation are recorded differently. To measure frequency we count. The duration of a behaviour we time. When we assess ability we check. Lastly, we rate the quality of a response. The four types of measures we use to record a behaviour are to (1) __________ for frequency data, to (2) __________ when we record duration, to (3) __________ the ability to respond, and lastly, to (4) __________ the quality of response.

Taking these in turn, counting is really the simplest measure. It records how often a response has occurred in a given time. If the response is frequent (say, head-banging) it is impractical to record it all the time. We therefore record only at certain times of the day. This is called time-sampling. For example, we could keep a record for the first five minutes of every hour. We might need to make a continuous record first. That way we could be sure our time-sampling technique was giving a reliable record. The simplest measure to make is to (5) __________, and when impractical we can use time-(6) __________.

Timing is also a simple measure. All we need to do is record the duration of a response; e.g., how long the patient takes to eat breakfast. If the duration is very short it may be necessary to use a stop-watch. Again, when the response occurs frequently, we can (7) __________-sample. A variation of this is to record whether the patient was making the response at pre-fixed times. For example, every hour on the hour.

Checking involves seeing whether a response occurs or not. So it is a 'yes-no' type of record; either the patient was making the response or he was not. Checking is like counting, but it enables us to record several responses at once. All we need to do is list the responses, observe the patient, and tick our record. An example from 'eating' might be:-

<table>
<thead>
<tr>
<th>Patient's name: ....................</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Response present:</td>
<td></td>
</tr>
<tr>
<td>Response absent:</td>
<td>X</td>
</tr>
<tr>
<td>Not observed:</td>
<td>No</td>
</tr>
</tbody>
</table>

**Response:**
- Used spoon at breakfast
- Used fork at lunchtime
- Drank from a cup
- Used knife & fork at tea
- Spilt food from plate at mealtimes
- Dribbled while drinking
- Ect with mouth open
Rating is more complex. It involves a judgement and is therefore to some extent subjective. We can reduce this by being very clear. Thus we can record 'eats well' in terms of the list of responses above. A 'score' of so many ticks or crosses would equal 'eating well'. This is a numerical rating scale. More often we use a polar or bi-polar rating scale. These are lines with a number of points on them. Beside each point is a word. The words range from one extreme to the other in the case of a bi-polar scale. An example of 'eating' would be:

<table>
<thead>
<tr>
<th>'Excellent'</th>
<th>Some faults</th>
<th>'Terrible'</th>
</tr>
</thead>
<tbody>
<tr>
<td>table manners</td>
<td>Normal</td>
<td>table manners</td>
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</tbody>
</table>

As rating can involve a (8) ____ (9) _____ judgement, we have to be very clear, possibly by using a (10) ____ (11) ____ polar rating scale. An alternative would be (12) _____.

To complete such a scale the writer places a cross at some appropriate point between the extremes. A uni-polar scale simply goes from one extreme (e.g. 'terrible' or 'excellent') to normal. It thus records only half of the possible range.

In deciding which technique to use, we need to bear in mind two basic things: the relevance of the data we record; and the time it will take to gather the data. These will be determined by the problem. Thus it would be pointless to record the quality of 'eating behaviour' by timing it.

Summary

There are four ways of recording. They are counting, timing, checking and rating. Counting is a measure of frequency. Timing assesses the duration of a response. Checking establishes if a response is present or not. Rating involves a judgement about the quality of a response. We can use one or more techniques with a response. The best one to use will be determined by the target response.

Missing Words

1. Count 7. Time
2. Time 8. Subjective
4. Rate 10. Polar
5. Count 11. Bi-
6. Sampling 12. Scale
STEP 4: OBSERVATIONAL TECHNIQUES

Task 1: To select and use appropriate observational techniques.

Method

Show video film of 'eating behaviour', then ask trainees to form pairs and between them:—

a. Decide what they are going to record.
b. Decide how (i.e. using which observational technique) they are going to record.
c. Draw up the record sheet.

When each pair has completed these steps, and each trainee has a copy of the record sheet, they view the same video again and make independent records.

Following this, the course trainer collects the records and compares a. and b. above, also considering the inter-rater reliability between pairs of observers. The reliability consideration can be related back to defining and describing behaviour.

The same procedure is followed for the second video film, (table-setting) with the exception that trainees are asked to go through steps a. b. and c. independently this time. Subsequent discussion again focusing on the topics of reliability and appropriateness of selected observational techniques.

Aim

To develop an understanding of the appropriateness of alternative observational strategies and to practice using them.

Materials

1. Video tape films of eating and table-setting.
2. Paper to draw up record sheets.

Task 2

To draw up a record sheet that is appropriate for the problem/patient that trainees have selected.
STEP 5

TRAINERS NOTESPAGES RECORDS AND GRAPHS

Lecturette: Outline as per handout.

Slide: Definition of step shown on slide during lecturette.

Use of Blackboard: Before step, write out (if slide unavailable) the steps involved in making a graph.

1. Establish the approximate scales involved for the two dimensions, e.g. 20 trials (time dimension) and range in response 'strength' dimension (e.g. frequency ranging between 20 and 50).

2. Allow room for labelling axes and placing title below horizontal axis (roughly 2" on each axis).

3. Draw the vertical and horizontal axes to the length determined by 1 above.

4. Place interval markings along these axes.

5. Label the axes.

6. Plot the data.

7. Provide a title for the graph (e.g. Figure I: "The Frequency of Nail-Biting during a 20 day Period")

8. Separate baseline and treatment phases by drawing a vertical line through the last baseline day/point in time. Label these phases; baseline above the baseline data, and treatment above the treatment data.

(See handout illustration).
Once we have defined the problem, then we keep a baseline record. This is a measure of the problem before we make any attempt to change the patient's behaviour. So far as possible he or she does not know that a record is being kept. The record kept before we try to change a response is called a (1) ______ record. The purpose of a baseline is to give a measure of the problem (2) ______ treatment.

We must keep a record until it is steady. This means that the problem is stable: it does not vary a lot between observations. Then once treatment has begun we can make an objective evaluation of how our treatment is going.

GRAPHING

When we have begun to record we can graph the results. Graphs allow anyone to see the level of the problem. We plot the behaviour's frequency or duration in the upright axis, and time along the horizontal axis. An example for an imaginary attempt to alter "looking out of the window" behaviour might, therefore, look like this:

A graph, therefore, allows us to display the duration or (3) ______ or a response. We usually plot the time scale on the (4) ______ axis and frequency on the (5) axis. In any event, always clearly label the graph, giving the scale (time, frequency etc.) and the response you are recording.

Graph I: Baseline and Treatment Data for Looking Out of the Window.

continued...
Summary:
A baseline is a record of the problem before treatment begins. Then we can compare it with the responses frequency or duration in treatment. This tells us if the treatment is effective. Graphs are very useful. They give a summary of the records and can be "read" quickly provided they are correctly labelled.

Missing Words
1. Baseline
2. Before
3. Frequency
4. Horizontal
5. Vertical
PRACTICAL

STEP 5: "BASELINE RECORDS AND GRAPHS"

Task 1: To accurately graph a target response. All subjects will graph provided data. (See below)

Method:
1. The Course Trainer first demonstrates, by graphing another set of data, how to make a graph following the written guidelines.

2. All subjects make graphs from provided data (slide presentation or written on blackboard). A step by step approach to graphing is given as a handout.

Aim: To develop an appreciation of the purpose of baseline records with respect to treatment, and to practise making graphs.

Materials Required
1. A4 sheets of graph paper.
2. Illustrative data:

<table>
<thead>
<tr>
<th>Trial</th>
<th>Score</th>
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<tbody>
<tr>
<td>1</td>
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</table>

- Baseline Phase.
- Treatment Phase.

Task 2: To gather baseline data on their patient/problem in the ward setting.


**STEP 6.**

**TRAINERS NOTES**

"CLASSICAL CONDITIONING"

**Slide:** Definition of step shown on slide during lecturette.

**Use of Blackboard:** While the slide is still projected, a diagram depicting the classical conditioning paradigm can be drawn on the board:

- **Old Stimulus** (x) → **Old Response** (e.g. Salivation).

- **New Stimulus** (e.g. Bell)

**Discussion** With this diagram fully visible to all subjects, make the following points:

a) That virtually any new stimulus can be paired or associated with the old stimulus (marked (x) on diagram).

b) That the new stimulus needs to occur immediately before the old one. ( signals or 'cues' it).

c) That following enough learning trails (e.g. 20) a new association is learnt between the new stimulus and the old response. Thus the new stimulus is now capable of eliciting the old response in the absence of the old stimulus.

**N.B.** Avoid discussion of technical terms such as UCS & UCR.
CORE COURSE

STEP 6: CLASSICAL CONDITIONING

Classical Conditioning was first described by Pavlov. He was a Russian Physiologist. His work with dogs led him to realise that the dogs salivated when no food was present. He called this 'Psychic' salivation. It was due to the dogs learning that his arrival was usually associated with food. He already realised that the dogs salivated to the sight of food. This new discovery made him wonder what other stimuli could make the dogs salivate. His research showed that sounds could also lead to salivation. He called these stimuli conditioned. That is, they were learnt by the dogs. In contrast, he called the food in the dog's mouth unconditioned stimulus. The importance of this discovery was that it showed us how some learning occurs. A new (conditioned) stimulus can elicit an old response. We can draw the relationship:

Old Stimulus    ___________________________  Response/Behaviour
               /                             \\
               New Stimulus                   Learning

The broken arrow, from new stimulus to response, is the new association. It is learning. The word association is a good one. It suggests how things that tend to go together in time are connected in our brains. In Step 3 we mentioned antecedents (or 'cues'). These cues are the old stimuli. In terms of our patients, our baseline recordings should tell us what cues elicit a problem. That is, what stimuli are associated with the patient's response. If we are able to find these out we may then be able to help. We can either remove the cues or, as Pavlov showed, condition a new stimulus to elicit the same response. This will be discussed further in step 11 on Planning Programmes of Care.

It was a Russian Physiologist, 1.________ who demonstrated how learning by 2.________ conditioning took place. The key idea is that things that go together in time are 3.________. Thus, new stimuli that occur simultaneous with old, already associated cues can eventually trigger the 4.—— response. Pavlov called such new stimuli 5.________, meaning that they had been learnt. The old stimulus he called unconditioned, or 6.—— stimulus for short. The importance of Pavlov's discovery was that it showed us how we can use an old stimulus to create a new 7.________. By doing this we can control the problems' occurrence.

The three importance elements of classical conditioning are as follows:

(a) Firstly, there must be an established reflex. A reflex is a stimulus and a response. The response is elicited by the 8.________.

(b) Next, there needs to be a neutral stimulus. This is any cue that does not elicit the response before conditioning. Pavlov was a 9.—— stimulus. Later he used a bell for this purpose.

(c) The neutral or 'new' stimulus must occur immediately before the old one. A gap in time of a few seconds will often prevent learning. This is because the association is 'weak' if we allow 10.—— to pass.
Summary: Classical Conditioning is a process of learning: New or 'conditioned' stimuli can be associated with old stimuli. For this to occur the new stimuli must occur immediately before the old. The response then follows. In this way events or cues are paired together or associated. In turn the new cues can elicit old responses. The vital elements are a reflex, a neutral stimulus and timing.

Missing Words:

1. Pavlov
2. Classical
3. Associated
4. Old
5. Conditioned
6. Old
7. Association
8. Stimulus
9. Neutral
10. Time
Task: To condition the eye-blink response. Other unconditioned stimuli that can be used are tickling and pin-prick.

Method: Subjects go to separate rooms or disperse as widely as possible and use different CS. They take turns as both trainer and trainee, then go through the following steps, recording the results of each.

1. Establish the baseline level of the old response (eye blink).
2. Establish that there is a reflex (i.e. that the air blast elicits the eye-blink).
3. Establish that the new stimulus (the paired stimulus, e.g. a sound, such as a knock on the table) does not elicit eye blink.
4. Present the noise immediately prior to the air-blast for about 20 trails.
5. Present the CS alone for about 20 trials.
6. Graph results - total score for each of steps 1-5.

Aim: Principally to participate in a learning experiment demonstrating classical conditioning. Also to become accustomed to recording, using a different type of record sheet. Experience of conducting a brief, careful analysis of a behaviour.

Materials Required

1. Special record sheet.
2. Drinking straws.
3. Graph paper.
4. Sound sources (various, e.g. bicycle bell or horn).

Additional Task

Ask trainees to suggest which cues are relevant to their patient’s problem, and what (if anything) the classical conditioning experiment above helped them to better understand or consider (e.g. manipulation of cues, in the same way as the experiment, in order to see what role cues were playing).
<table>
<thead>
<tr>
<th>TRIAL</th>
<th>EYEBLINK PRESENT (√) OR NOT (X)</th>
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<td>31</td>
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<td>Attempt to Classically condition eyeblink (UCR) to noise (CS)</td>
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<td>C.S. (noise) alone: does it elicit U.C.R. (eyeblink)? (Test for learning effect)</td>
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</table>
"OPERANT CONDITIONING"

**Slide:** Definition of step shown on slide during lecturette.

**Blackboard:** During the slide presentation and broad introduction (lecturette) two graphs can be drawn on the board to illustrate:

- a) an example of an increase in the target response during the treatment phase, defined then as 'reward' and
- b) a second example of a decrease in response strength, defined as 'punishment'.

**Discussion:** In addition to summarising the key points from the hand-out, operant and classical conditioning can be compared. This includes a) how these forms of learning tend to involve different kinds of behaviour (i.e. voluntary versus involuntary) in contrasting ways (cues 'elicit' responses from a 'passive' subject; consequences follow an 'active' 'emitting' of behaviour), with quite different possibilities (in so far as operant learning provides for the acquisition of new responses, whereas classical learning 'only' involves new cues for old responses).

Finally, case study examples can be given to illustrate how they may work together to control a response (e.g. in the two-factor theory of anxiety acquisition and maintenance: trauma - 'classical' association - and avoidance - operant consequence).

Emphasise that the definition of a consequence depends on its observed effect.
Operant conditioning or learning deals with how people acquire new behaviours. In contrast, classical conditioning is to do with learning new 'old' responses. Operant learning was developed by Skinner, an American psychologist. He outlined many of the principles in operant learning. As with Pavlov, he did his research using animals in a laboratory.

The main principle is the 'Law of Effect': behaviour is controlled by its consequences. There are four distinct kinds of consequence. They are 'reward', 'punishment', 'time-out' and 'escape'. They will be discussed more fully in Step 8. Reward is the consequence most often used in Behaviour Therapy. Another word for reward is reinforcement. The word suggests the idea of 'strengthening' or 'fortifying'. This is what happens when reinforcement 2.--- a response. The response is strengthened. That is, it occurs more frequently, or for longer, or with greater intensity.

Not everything we use to follow a response is 3.---. We may find that our records show the response to be weakening. In this event we are not in fact using 'reinforcement'. Only if the response is getting stronger can we use this term. This again shows us the importance of our records. Without them we could be 'blindly' following a response with a consequence we thought would be reinforcing. For example, money might be expected to be a reward. But, for some people it might not be. We would have to observe and record whether or not the response strengthened. Rewards are usually some of the following:

(a) Edible e.g. sweets
(b) Manipulable e.g. toys, games.
(c) Social e.g. praise, physical contact.
(d) Conditioned e.g. money, tokens.

So, if we gave a patient praise after a sought-after response, we would be using a 4.--- reward. A game of cards would be a 5.--- reinforcer. However, far more important than how we classify our rewards is how we evaluate them. The Law of 6.--- states that behaviour is controlled by its 7.---. Only by 8.--- the effect of the reward on the 9.--- can we determine whether the consequence is actually a reward.

It is often difficult to 'find' a reinforcer. If you have tried a number of things without avail it may be best to check the rules for rewarding. These are:

1. Use the 'strongest' reward you can find.
2. Present the reward immediately after the response.
3. At first, give a reward every time the response occurs.
4. Give social and any other type of reward (e.g. a cigarette) together. Thus you could praise the patient while giving him a cigarette.
5. Be consistent: Repeat the consequence as exactly as possible each time.

To summarise, the rules for rewarding are to use a 10.--- reward 11.--- after the response. Initially, reward every 12.---, and try to use social praise with other 13.---. Always be 14.--- and clear.

Cont'd.....
STEP 7: OPERANT CONDITIONING
(Cont'd)

You will now see why we record consequences on our A - B - C record. Just as antecedents are to do with Classical Learning, so consequences are to do with operant learning.

So an A - B - C record tells us about stimuli involved in both types of learning. We are then in a position to understand what controls the patients behaviour. Once we understand we can begin therapy.

Summary
Operant learning deals with consequences. There are four classes of consequences. They all influence behaviour. Reinforcement, one type of consequence, strengthens the response it follows. It should immediately follow a response and be given every time, at first. It is vital to be consistent and clear.

Missing Words:
5. Manipulable 10. Strong
PRACTICAL

STEP 7: OPERANT CONDITIONING

Task 1: To use positive reinforcement to influence a target response.

Method:

1. Decide:
   a) What would be an appropriate target response; and
   b) What the therapist could do to modify their patient's problem.

2. Select a 'reward' to use, e.g. 'attention' (e.g. showing interest in what the patient does; alternatively, try 'material' or 'conditioned' rewards (e.g. matches in place of money). Apply this consequence immediately after the target response, following a baseline phase.

3. Draw up a simple record sheet, containing trials and e.g. whether target response present (√) or absent (×).

4. The trainer prepares e.g. by planning some topics of conversation, during which he/she can apply the reward contingency.

5. Go to the ward, and work with their selected (or another) patient.

6. Lastly, all trainees return to discuss the practical. Topics include a) whether or not the trainees were able to conduct the practical, b) trainers define the effect of their consequence empirically - was it actually a reward? (The records will show this).

Aims: To gain some experience in applying rewards, and in empirically defining the contingency in terms of the observed effect. Further practice in recording and selecting target responses.

Materials:
1. Lined A4 paper (record sheets).
2. Reinforcement survey (for brief overview of range of possible rewards).
STEP 8

TRAINERS' NOTES

"TYPES AND USES OF CONSEQUENCES"

Slide: Definition of step shown on slide during lecturette.

Use of Blackboard:

1. Ask subjects to generate some of the different types of consequences that occur in everyday life (e.g. sunburn from over-exposure to the sun). Write these consequences on the board prior to the lecturette and showing the slide, then compare the two. See if the subjects managed to offer an example of each type of consequence, by going through the list.

2. Draw box diagram (as in handout) and try to fit into it each of the consequences listed by the subjects and shown on the slide.

3. Draw record sheet of the type that can be used in the practical:

<table>
<thead>
<tr>
<th>Trial No</th>
<th>Problem</th>
<th>Present</th>
<th>Absent</th>
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</table>

Discussion: Reiterate the need for an empirical definition and relate to the value of baseline records.

Also relate this step to the first step, concerned with 'excess' and 'deficit' problem categories. Show the relevance of the four consequence types to these:

<table>
<thead>
<tr>
<th>Problem</th>
<th>Applicable Consequences</th>
</tr>
</thead>
<tbody>
<tr>
<td>'Excess'</td>
<td>1. Time-Out/Extinction</td>
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<tr>
<td></td>
<td>2. Punishment</td>
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<td>3. Reward</td>
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<td>4. Escape</td>
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<td>'Deficit'</td>
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CORE COURSE

STEP 8: TYPES AND USES OF CONSEQUENCES

In Step 7 we mentioned that there were four possible types of consequences. One of them, reinforcement (or 'reward') was described in some detail. The other three consequences are 'punishment', 'time-out' and 'escape'. We can summarise their relationship in capsule form:

<table>
<thead>
<tr>
<th>'Pleasant' Stimulus</th>
<th>'Unpleasant' Stimulus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stimulus Presented</td>
<td>Box 1</td>
</tr>
<tr>
<td></td>
<td>Reinforcement</td>
</tr>
<tr>
<td></td>
<td>(Strengthens)</td>
</tr>
<tr>
<td>Stimulus Removed</td>
<td>Box 2</td>
</tr>
<tr>
<td></td>
<td>Time-Out</td>
</tr>
<tr>
<td></td>
<td>(Weakens)</td>
</tr>
<tr>
<td>Stimulus Present</td>
<td>Box 3</td>
</tr>
<tr>
<td></td>
<td>Punishment</td>
</tr>
<tr>
<td></td>
<td>(Weakens)</td>
</tr>
<tr>
<td>Stimulus Removed</td>
<td>Box 4</td>
</tr>
<tr>
<td></td>
<td>Escape</td>
</tr>
<tr>
<td></td>
<td>(Strengthens)</td>
</tr>
</tbody>
</table>

You may recall reinforcement involves doing something to the patient after a response. Also, we said that our records must show the response to strengthen for it to be called reward. Box 1 contains the word 'reinforcement'. Above it we see that a stimulus has been presented. On its left we can also see that this stimulus was a 'pleasant' one. Thus, giving a pleasant stimulus equals reinforcement. If we remove a pleasant stimulus we call this 'time-out' (Box 2). An example might be taking a patient's food away. Unpleasant stimuli can also be taken away or given. The former is called escape (Box 4). In escape, the consequence of responding is to stop something unpleasant. A loud noise could be stopped, for example. Lastly, punishment is giving an unpleasant stimulus. A typical research example is electric shock.

If we rearrange the boxes above, so that the headings are now as follows:

<table>
<thead>
<tr>
<th>'Pleasant' Stimulus</th>
<th>'Unpleasant' Stimulus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stimulus Present</td>
<td>(Box 1)</td>
</tr>
<tr>
<td></td>
<td>(Box 2)</td>
</tr>
<tr>
<td>Stimulus Removed</td>
<td>(Box 3)</td>
</tr>
<tr>
<td></td>
<td>(Box 4)</td>
</tr>
</tbody>
</table>

Now you insert in each of the boxes the correct name for each type of consequence.

Now we have defined these terms we can list their effects. We can refer to the first capsule again for this. The words 'strengthen' or 'weaken' are placed in brackets in each of the four boxes. They tell us how each consequence effects the behaviour it follows. Thus reinforcement and escape strengthen a response; time-out and punishment weaken it.
Now add whether the consequence you placed in each of the boxes strengthens or weakens the response it follows.

We must always work out which of the consequences we are actually using. As with the example of reward in Step 7, this is done by recording the response. Only after noting the effect of the consequence we are using can we say which one it is. Take the example of giving a patient a cigarette every time he makes a bed. During the baseline record we may think that cigarettes are a reward. What we may find from our records, however, is that this consequence actually weakens the response. That is, bed-making is less frequent once this consequence is introduced. Looking at our capsule, we would have to call this punishment, not reward; we have given something, and the effect has been to weaken the response. The cigarette is thus an unpleasant stimulus for that patient. It is worth noting that without records we would not have been aware of this surprising result. Also, we would waste a lot of therapeutic effort and possibly make the patient worse.

More often than any other error we find that trainee behaviour therapists forget to define a consequence in terms of its effect. To do this, we need to have a good understanding of the consequences:

| Box 1 | Type of consequence is reinforcement | Effect to strengthen the response. |
| Box 2 | Type of consequence is punishment   | Effect to weaken the response.     |
| Box 3 | Type of consequence is time-out     | Effect to weaken the response.     |
| Box 4 | Type of consequence is escape       | Effect to strengthen the response. |

In addition to using consequences to directly strengthen or weaken a response, we can alter behaviour indirectly. The clearest example is rewarding an incompatible response, that is a response that, when carried out, prevents the problem from occurring. For example, if the problem was wandering from the meal table, an incompatible response would be sitting at the table. It is impossible for the patient to make both responses at the same time. If we reward sitting at the table, the problem behaviour will decline. This is an example of reinforcing (12) incompatible behaviour.

A variation is to reward any other behaviour apart from the undesirable response, even if its not incompatible. In the above example, we might reward the patient for talking with other patients. As most other patients are seated, it may result in less of the problem. An advantage of this approach is that it focuses our attention on to positive aspects of the patient's behaviour.

**Summary**

There are four consequences that we can follow a patient's behaviour with. They are reward, escape, punishment and time-out. The first two strengthen a response. The last two weaken it. So in the case of the first two, the response is more likely to occur again. In the last two, the response is less likely to re-occur. All of these consequences are defined after we have seen what effect they have. It is not enough to define them in terms of giving or removing pleasant or unpleasant stimuli.
PRACTICAL

STEP 8: 'TYPES AND USES OF CONSEQUENCES'

Task 1
To record and attempt to modify a patient's behaviour by use of a 'weakening' consequence (extinction/time-out, punishment).

Method
As for the previous practical, only now selecting an 'excess' problem and (therefore) utilising a 'decelerator' consequence.

Task 2
Record and attempt to modify a problem behaviour by use of differential reinforcement of incompatible (or other) behaviour.

Aim
Practise in using decelerators.

Materials
1. Record sheet paper (A4)
2. Any physical, manipulable, or conditioned consequences.
**Slide:**
Definition of step shown on slide during lecturette.

**Use of Blackboard:**
Write out important reminders regarding prompting:

1. Consolidate each step (repeating trials to overlearn the response involved) before proceeding.

2. Do not try to teach unnecessary things, such as concepts (e.g. 'right', 'left', 'over', 'under' etc.).


**Also:**

4. Indicate how all topics subsumed under this step are ways of helping patients to learn. Technically, they are antecedents, but ones that are gradually altered as learning progresses. Individuals are encouraged to concentrate on the method of prompting that is most appropriate to their case. For example, modelling is useful in indicating and regulating appropriate behaviour and in the treatment of anxiety problems. Its value is perhaps greatest with the more able, alert patients, since it is a more abstract form of learning.
CORE COURSE

STEP 9: "PROMPTING LEARNING"

Earlier, we mentioned that there were ways to help a patient respond.
Four of these ways are shaping, prompting, modelling and fading.
'Shaping' means giving rewards only when each attempt is 'better'
than the one before it. We are thus helping the patient to gradually
make the correct response. This response can be 'shaped' out of other
responses that the patient already makes. An example would be getting a
mumbling patient to talk clearly. We might start by rewarding any speech
sounds at all. Next we would only reward sounds that are closer still to
speech. By the end of the procedure we would only reward proper words.
It is very important to have clear goals along the way. Otherwise it is
easy to reward sounds that are not closer to speech. For this reason it
is useful to write out a series of steps or sub-goals, and these are
covered in the next step.

When we reward only successively closer approximations to a desired response
we are (1) behaviour. It is a means of (2) helping the patient to make the correct (3) along the way. Before we
reach our final goal of treatment we achieve a number of (4) goals.

Prompting is really assisting or helping. This help can take several forms: physical, verbal or gestural. Physical (6) are where we
guide the patient by hand. We can vary the amount of this help. When we
take complete control we are using gross physical prompts. An example is
holding a patient's hand around a spoon and providing all the movements.
A minimal prompt might be lightly touching the patient's arm during the
same feeding response. Verbal prompts are also of two types. Directed
verbal prompts tell the patient what to do. For example 'pick up the spoon'.
Undirected prompts tell him that something needs to be done, but does not
say how to do it. For example, 'how can you eat without finger-feeding'.
Clearly, the directed verbal prompt is less demanding for the patient.

A gestural prompt shows the patient what is wanted by your actions. You
might, for example, tap a seat to show him that he is to sit down. Note
that the gesture is thus not the same as the response it elicits. In
comparison, in 'modelling' the therapist demonstrates the action, so that the
patient can imitate.

Prompts are therefore more direct ways of (7) patients to respond correctly. There are three basic types of prompt: Physical, (8) and gestural. Note that these three types of prompting
cover the main senses: touch, sight and sound.

Fading is really the reverse of prompting. In this we gradually remove the
aids to responding. These aids are both prompts and rewards. The prompts
are reduced in the order physical, (9) then verbal. That is, from 'most' to 'least' help. So the first thing to fade in our example of
spoon feeding is the gross (10) prompt. Next we would fade any helpful gestures, lastly, we would fade verbal prompts. In any one
of these types of prompts it is also a rule to fade the least part of the
prompt first. So, in feeding this might be stopping a gross physical prompt a few inches before the spoon reaches the mouth. The patient then completes the (11) step. He may have a gestural or verbal prompt to help with this. Modelling, that is, when a patient learns by (12),
could be used to teach more advanced skills.

Rewards can also be faded. We can reduce their frequency by not giving
a reward every time the response occurs. Instead, we might reward every
second response. Also, we can fade the strength of a reward. That is, we
can give less for each response. As an example, our bed-making patient could receive only half a cigarette per bed made, instead of a whole cigarette.

cont...
Step 9: "Prompting Learning"

So, in addition to fading prompts, we can fade (13) ________, by making them less (14) ________. This is the same as asking the patient to respond (15) ________ often per reward. Equally, we may have the patient make a better or (16) ________ response.

Summary:

Prompting, shaping, modelling and fading are ways of helping patients to respond. Prompting can be physical, gestural or verbal. Shaping is a process of only rewarding successively 'better' responses. Fading is a way of gradually reducing the help we give. In this way prompts and rewards are carefully reduced. Modelling involves a more subtle form of prompt, as it relies on the patient's ability to imitate skills.

Missing Words:

**Classroom Task 1**

**Method:**
1. The course trainer demonstrates the practical.

2. Subjects form pairs, one playing the 'patient' the other the trainer. The trainer chooses a response to teach the 'patient'. This should be something they are currently genuinely unable to do (examples might include left handed writing, female subjects making a tie-knot, male subjects making a more complex knot). Sensory blocks (blindfolds, ear plugs, make these tasks initially more dependent upon physical prompts and so can help make the practical more realistic. Other examples include paper aeroplane, headdress, table-setting, complex figure on board (blindfold) and negotiating maze made up of classroom furniture (blindfold).

3. Trainers then try to teach the selected behaviour, commencing with gross physical prompts, then 'fading' through gestural to verbal prompts as appropriate.

4. Video tape feedback with course trainer's comments.

5. Role-reversal – each subject has the opportunity to be the 'trainer'.

**Aim:**
To practise using the different levels of prompting in a realistic training situation.

**Materials:**
1. Video equipment (feedback)
2. Video film (dressing) as addition/alternative to role-play.

**Classroom Task 2**

**Method:**
1. The course trainer models a non-behavioural interview (e.g. client centred).

2. Then asks for group feedback, particularly on the kind of interview – was it behavioural?

3. Then conducts a behavioural interview, (focussing on A-B-C information) again with volunteer 'patient' presenting for first interview. Can be based on trainees own fears e.g., or on a patient they know.

4. Again, the group is asked to provide feedback and comment on the contrast in information sought/obtained.

5. Each subject then has a turn as interviewer, with another trainee role-playing a patient's or their own problems (e.g. phobia's). Keep A-B-C record.

cont..
Step 9: "Prompting Learning" - Practical Continued.

6. Coaching and video trainer feedback emphasised. Course trainer may model as appropriate further specific aspects of the successive interviews.

7. With video tape feedback.

Aim: To practise obtaining behavioural information as modelled by the course trainer.

Materials: 1. Video equipment
2. A-B-C record sheet

Ward Task If applicable and as appropriate make use of prompts with own patient on trial basis.
Definition of step shown on slide during lecturette.

1. Write out task analysis as in practical, select example from Step 9, such as the steps in knotting a tie etc. Indicate how Step 1 in a chain is equivalent to the "problem" (as it is the thing you are focussing upon) or "baseline", and how the final step in the chain is the treatment "goal".

2. Illustrate a brief method of checking whether a chain is progressively more difficult. The example on the board can thus be broken down into + and -'s, i.e. things which facilitate or impede the acquisition of the skill. These + and -'s are placed beside each step so as to indicate relative amounts of help or difficulty involved, and they should show a steady reduction in "positives" with a steady increase in "negatives" as the steps move towards the final step/goal.

3. Give subjects the "steps in chains" hand out to aid in task analysis practical.
In Step 9 we mentioned the need to break down a behaviour into 'steps'. The reason for doing so is to help both therapist and patient. The therapist is helped as he knows exactly what his sub-goal is at each stage. So he knows when to reward and so on. The patient is helped as each step is as small as possible. This makes learning easier. It also ensures that we give the patient the best possible chance to learn.

A sequence of steps we call a 'chain'. This is because a behaviour, such as eating, is made up of a series of links (or steps). We teach steps one at a time. Only when a step is learnt do we go on to the next one in the chain. Gradually we connect all the links to make the whole behaviour. It is often important to start a chain backwards. So, in the case of feeding we teach placing the spoon in the mouth first. The last step to teach would be picking up the spoon. This may seem odd, but it is usually the most successful approach. It is called 'backward chaining'. Its success seems to be due to starting with an immediate reward. Once a patient learns how to earn the reward they will go through another step first.

When we have precisely specified each goal in the chain the chance of our making the mistake of assuming a patient cannot is made as as possible. A chain is a sequence of such as are apparent from the careful analysis of any behaviour. Gross activities, such as going to work, involve such steps as getting up, leaving the house, catching a bus and walking from the stop to work. An assessment at this level will tell us where the problem lies. However, we will probably have to develop a more detailed in order to teach the patient. This might involve starting a programme to do with 'catching a bus', and if so the steps might be:

<table>
<thead>
<tr>
<th>Step</th>
<th>Sub-Goals</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Stand at bus stop.</td>
</tr>
<tr>
<td>2.</td>
<td>Get fares ready.</td>
</tr>
<tr>
<td>3.</td>
<td>Get onto bus platform.</td>
</tr>
<tr>
<td>4.</td>
<td>Pay fare.</td>
</tr>
<tr>
<td>5.</td>
<td>Find seat.</td>
</tr>
<tr>
<td>6.</td>
<td>Watch for alighting stop.</td>
</tr>
<tr>
<td>7.</td>
<td>Stand up well in advance of this.</td>
</tr>
<tr>
<td>8.</td>
<td>Ring bell to stop.</td>
</tr>
</tbody>
</table>

Again, even this amount of detail may turn out to be inadequate, e.g. if the patient has trouble counting money. In this case we would need to work out the to teach this. The first aim is thus to find the general area of difficulty, then plan a of steps to help the patient to learn. If practical we always try and teach the step, this is called chaining.

Summary

Chaining is an approach that stresses the need to break behaviours down into small steps. These steps can then be taught one at a time. Once a step is learnt it can be linked to the next one in the chain. The best way to link steps together is backwards. That is, starting training with the last step in the chain.

Missing Words

2. Learn 5. Chain 8. Last
FRACTICAL

STEP 10: "CHAUTING"

Task
To practise task analysis, i.e. breaking down global, complex behaviours into small discrete learning steps.

Method:
1. The course trainer illustrates a task analysis on the blackboard, e.g. one of the cases. Trainees do a task analysis of their own patient's problems.

2. If time allows, each trainee is then given a problem card which outlines a problem experienced by a hypothetical patient; pairs of subjects receive the same 'problem card' (thus for a group of 5 subjects there are 3 different problem cards). Working independently, subjects then attempt to write out the possible learning steps appropriate for each problem. Once they have all formulated a sequence of steps, subject-pairs having the same referral cards meet together and discuss their analysis. Finally there is a group discussion.

Aim:
To provide practice in task analysis and thereby an appreciation of the step-by-step approach to training patients.

Materials:
1. Sheet of paper (lined A4)
2. Problem cards (e.g. shopping, eating a meal, shaving).
3. 'Steps in chains' handout.
1. Establish the goal of the chain: what are you aiming for? (Be realistic and choose short-term goals first).

2. Clarify the present level or 'ability' of the patient. (Baseline).

3. If the number of steps needed between the present level (2) and the goal (1) is more than 12, reappraise the goal 'downwards'. No more than 12 steps should be included as a rule.

4. Place the goal at the top of the page, and the present level - i.e. starting point - at the bottom.

5. Find out what the important factors are (e.g. where, with whom, when, following, coinciding with, or before what does the response occur). Some of these will help the patient respond appropriately, others will be a hindrance.

6. 'Rank' (that is, place in order of importance) each of these factors e.g. 'where' may be most important, 'when' irrelevant.

7. Use the ranking of the factors to help create the steps: most important, 'positive', or helpful variables are used early in the chain to help the patient respond; the complicating or 'negative' factors are introduced very gradually and later in the chain of steps.

8. Use these factors and their ranking to guide your step choice. So, for example, if the response occurs easily in the presence of music and rarely in the presence of people, gradually fade the music (positive, helpful) and introduce the people (negative, hindrance) - the goal of the chain.
Slide: Definitions of
a) maintenance (stimulus generalisation included) and
b) generalisation (referring only to response generalisation)

Lecture: Clarify the relationship between these two items. For example, maintenance, for our purposes, refers only to some given behaviour lasting. This includes that it continues over time and across situations. In contrast, generalisation refers to the development of new behaviour consequent on the targeted behaviour. For example, a patient taught to shave may then start to wash.
These areas are in some ways the most important of all, since it is no use to train a patient to do (or not do) something if they then need constant and endless help.

MAINTENANCE refers to the method of making sure that good and adaptive behaviour receives enough reinforcement for it to continue. In the case of maladaptive behaviour so that they can be removed in the long-term.

An understanding of maintenance of behaviour is, therefore, crucial if we are to discourage maladaptive behaviour and replace it with adaptive behaviour. It allows us to arrange for lasting improvements, and for these improvements to occur in different places.

To ensure the persistence of adaptive behaviour we must make sure that the reinforcers which are controlling the adaptive behaviour become more social in nature. For example, we can accompany physical rewards with praise. Another rule is to gradually decrease the reinforcers so that the patient does not receive reinforcement on every occasion. This is known as partial reinforcement.

If a behaviour is to re-occur we must make sure that it is (1) ___________. The process of making such a behaviour lasting is called (2) ___________. If we are to ensure that a behaviour continues the rewards must become (3) ___________ in nature and we must introduce a partial reinforcement system.

Partial reinforcement means giving less (4) ___________. This can be done by reducing the amount given on any one occasion (e.g. less praise, fewer cigarettes). Also, it can be done by requiring the patient to 'work' harder for each reward. For example do two things for a reward previously obtained for doing only one thing. In this way we can gradually 'fade' the use of consequences to a realistic level i.e. likely to occur in other environments (e.g. the 'community'). The best approach to using partial rewards is to (5) ___________ them from every time at first to every second or third time and so on. Also, it helps to make these rewards 'unpredictable'. That is, do not give them every second time, but vary it. This often results in the patient (6) ___________ their new behaviour.

Other useful tips are to do as much training in the 'real' (i.e. relevant) situations. The rest should be done in a variety of settings.

In contrast to maintenance, GENERALISATION refers to other new behaviours developing as a result of the one treated. For example, a patient taught to make their bed may also start keeping their sleeping area tidy, even though this was not a goal or contingency. This would be called (7) ___________. The development of new and appropriate behaviour in this way is difficult to plan for. It is more a case of noticing it and (8) ___________ it, so that it is more likely to recur in the future.

Summary

Maintenance means ensuring that a newly learnt behaviour lasts. This is done by reducing rewards, by giving them less often and/or of less strength when they are given. Also, it can be helped by conducting training in relevant and varied situations. Generalisation refers to the 'spontaneous' development of new, adaptive behaviours. These are usually but not always related to the treated problem.

Missing Words
Step 11: "Maintenance and Generalisation"

Task: To use different types and amounts of given consequences, as appropriate.

Method: Trainees are asked to attempt 'thinning' schedules and using social rewards with 'their' patient. It may only be practical to target a new problem or behaviour for this step.

Trainer observes as many as possible. Feedback and discussion in group after practical phase.

Aim: Practise in using maintenance techniques.
STEP 12

TRAINING NOTES: "PLANNING PROGRAMMES OF CARE"

**Slides:** Review main steps in course to show their general relevance to individual patients and plans.

**Board:** Recap and overview these steps within the format:

- a) identify problem (define, describe)
- b) understand problem (A-B-C, history)
- c) establish baseline
- d) intervene/therapy
- e) evaluate

**Lecture:** Cover the above, subsuming them under the title of "programme planning". Stress the order and coherence of this format, and its wide relevance. Link assessment to treatment.
This is the final step of the core course. It is also the step that links up all the previous ones. This is because a behavioural programme or core plan draws on all the things we have covered so far. The plan is a written approach for dealing with a problem. At one extreme it may simply consist of a simple behaviour-consequence sequence. For example, rewarding a patient for speaking coherently. At the other extreme the behavioural (1) may make use of a number of the factors we have covered. For example, the patient with speech difficulties may have a programme that consists of cues (e.g. eye contact with staff), consequences (e.g. from staff) and a graded approach to a goal (shaping, chains). Also, most behavioural (2) will plan for the maintenance of improvements.

The general approach to planning a programme is the sort of sequence of learning steps, or (3) that we have gone through in this course. Our chain can help us to prepare a programme by reminding us of the procedure for optimising learning. This began with a definition and (4) of the problem. Once this was clear, we could proceed with baseline records and move on to understanding the behaviour. We achieved this by using an A-B-C (5). This clarified the controlling factors, i.e. the (6) and (7). Not only do classical and operant forms of learning help us to understand a problem behaviour, they also allow us to think of ways of altering it. This systematic alteration is our therapy. Therefore, the steps that we would follow in developing a programme are:

a) Define and (8) the problem.
b) Clarify what's controlling it.
c) Gather (9) data.
d) Start therapy.
e) Evaluate.

The final step, (10) is only possible if we have baseline (11). The difference between the start and later stages of therapy only become clear with a comparison of this kind. The evaluation will also usually indicate what further problems are present, and what sorts of techniques have proved useful. It also builds in a review, for example after a month of therapy. If there has been little change in this period it is probably appropriate to consider an alternative plan.

Summary
Planning programmes of care involves a series of steps for both staff member and patient. For the staff it involves defining and describing the problem/s, gathering A-B-C data and a baseline, then starting therapy. Once this is underway the next step is to review and evaluate the effect of the programme.

Missing Words
1. Plan 6. Antecedents
2. Programmes 7. Consequences
3. Chain 8. Describe
4. Description 9. Baseline
5. Record 10. Evaluation
11. Records
PRACTICAL

STEP 12: "PLANNING PROGRAMMES OF CARE"

Task: Course trainees are required to write out a plan. This covers both assessment and treatment techniques, and is concerned with their patient.

Method: The handout on writing out a plan is used as the prompt. Trainees attempt to complete this form in view of their practise and experience of earlier steps (e.g. how best to record). The plan should be exclusively concerned with the problem/s their individual patient presents with. Therefore some of the steps will be inappropriate and ought not to be included. Group and individual discussion takes place to help with planning and it is particularly valuable, in the individual discussion, to include observations of the patient and setting so as to tailor it as closely as possible to needs. This may have to be done after the close of the course. The advantage in so doing is that it builds in greater maintenance of the new skills (through provision of a recently learnt cue for behaviour therapy - the course trainer).

Materials: a) The programme plan handout
1. **Reason for selecting the patient for treatment**
   - What is the problem? (brief outline).
   - What is the significance of reducing this problem? (is it worth tackling?)

2. **The problem**
   - Details as regards where, when etc. the problem occurs.
   - What else influences the problem to change?
   - Can the patient control their own behaviour?

3. **History of the problem**
   - When did it first start?
   - What has happened since then?

4. **Possible reason for the problem**
   e.g. maintained by certain cues or consequences.

5. **How the baseline record will be made**
   - Definition of response to be recorded?
   - What response will be recorded?
   - In what way - method and measures to be used.
6. **Goal of treatment**
   - Sub-goals?

7. **How treatment will be introduced**
   - What consequences or cues etc. will be varied to effect changes?
   - When will they be introduced?
   - Steps involved?
Appendix 18

Results of statistical analyses of core tests
### Appendix 12

**SUMMARY OF CORE COURSE RESULTS:**

**WITHIN GROUPS COMPARISONS**

#### 1. Experiment One  \((N = 41)\)

<table>
<thead>
<tr>
<th>TEST</th>
<th>PRE V POST</th>
<th>POST V FOLLOW-UP ((N = 19))</th>
<th>PRE V FOLLOW-UP ((N = 19))</th>
</tr>
</thead>
<tbody>
<tr>
<td>'C'</td>
<td>NS.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>S.P.T.</td>
<td>(p &lt; 0.01)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>K.B.P.Q.</td>
<td>(p &lt; 0.01)</td>
<td>NS.</td>
<td>NS.</td>
</tr>
<tr>
<td>A.T.Q.</td>
<td>NS.</td>
<td>NS.</td>
<td>p (&lt; 0.01)</td>
</tr>
<tr>
<td>F.A.</td>
<td>(p &lt; 0.01)</td>
<td>NS.</td>
<td>NS.</td>
</tr>
<tr>
<td>F.T.P.</td>
<td>NS.</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

#### 2. Experiment Two  \((N = 24)\)

<table>
<thead>
<tr>
<th>TEST</th>
<th>PRE V POST</th>
<th>POST V FOLLOW-UP ((N = 10))</th>
<th>PRE V FOLLOW-UP ((N = 10))</th>
</tr>
</thead>
<tbody>
<tr>
<td>'C'</td>
<td>NS.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>S.P.T.</td>
<td>(p &lt; 0.01)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>K.B.P.Q.</td>
<td>(p &lt; 0.01)</td>
<td>NS.</td>
<td>p (&lt; 0.01)</td>
</tr>
<tr>
<td>A.T.Q.</td>
<td>NS.</td>
<td>NS.</td>
<td>NS.</td>
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<tr>
<td>F.A.</td>
<td>(p &lt; 0.01)</td>
<td>NS.</td>
<td>p (&lt; 0.01)</td>
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<tr>
<td>F.T.P.</td>
<td>(p &lt; 0.05)</td>
<td>-</td>
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#### 3. Control Group  \((N = 18)\)

<table>
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<tr>
<th>TEST</th>
<th>PRE V POST</th>
<th>POST V FOLLOW-UP ((N = 7))</th>
<th>PRE V FOLLOW-UP ((N = 7))</th>
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<tbody>
<tr>
<td>'C'</td>
<td>NS.</td>
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<tr>
<td>S.P.T.</td>
<td>NS.</td>
<td>-</td>
<td>-</td>
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<td>K.B.P.Q.</td>
<td>NS.</td>
<td>NS.</td>
<td>NS.</td>
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<tr>
<td>A.T.Q.</td>
<td>NS.</td>
<td>NS.</td>
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</tr>
<tr>
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<td>NS.</td>
<td>NS.</td>
<td>NS.</td>
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<tr>
<td>F.T.P.</td>
<td>NS.</td>
<td>-</td>
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* Statistic: Wilcoxon Matched-Pairs Signed Ranks Test, Two Tailed Probability.
**SUMMARY OF CORE COURSE RESULTS:**  
**BETWEEN GROUPS COMPARISONS**

<table>
<thead>
<tr>
<th>TEST</th>
<th>EXP. 1 V EXP. 2</th>
<th>EXP. 1 V CONTROL</th>
<th>EXP. 2 V CONTROL</th>
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<tbody>
<tr>
<td></td>
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<td>Post</td>
<td>Follow-Up</td>
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<td>'C'</td>
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<td>-</td>
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<td>-</td>
<td>-</td>
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<td>K.B.P.Q.</td>
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<td>NS.</td>
<td>NS.</td>
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**NB**  
Experiment 1: N = 41  
Experiment 2: N = 24  
Control: N = 18

* Mann-Whitney 'U' Test used for all comparisons. (Two-tailed)
Appendix 19

Means and standard deviations for experiment 2 results.
### Measures

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<tr>
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<td>4.4</td>
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Appendix 20

Correlation matrix for
Subject variables.
Appendix 20

Correlation Matrix for Subject Variable and Learning (N=65)

(Pearson Correlation Co-efficients)

<table>
<thead>
<tr>
<th>Demographic Variable</th>
<th>Test Score (difference pre-post)</th>
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<td></td>
<td>r =</td>
</tr>
<tr>
<td></td>
<td>p =</td>
</tr>
<tr>
<td>Sex</td>
<td></td>
</tr>
<tr>
<td></td>
<td>r =</td>
</tr>
<tr>
<td></td>
<td>p =</td>
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<tr>
<td>Grade</td>
<td></td>
</tr>
<tr>
<td></td>
<td>r =</td>
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<tr>
<td></td>
<td>p =</td>
</tr>
<tr>
<td>Nursing Qualifications</td>
<td></td>
</tr>
<tr>
<td></td>
<td>r =</td>
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<tr>
<td></td>
<td>p =</td>
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<td>Academic Qualifications</td>
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<td></td>
<td>r =</td>
</tr>
<tr>
<td></td>
<td>p =</td>
</tr>
<tr>
<td>Duration of Service</td>
<td></td>
</tr>
<tr>
<td></td>
<td>r =</td>
</tr>
<tr>
<td></td>
<td>p =</td>
</tr>
<tr>
<td>Prior Knowledge and Experience in B.T.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>r =</td>
</tr>
<tr>
<td></td>
<td>p =</td>
</tr>
</tbody>
</table>
Appendix 21

Interview questions to nurses and patients in Towers.
TOWERS REACTIVITY INTERVIEW

QUESTIONS TO NURSES

1. Do you recall seeing Mandy/a psychology assistant/a young lady on the ward?

2. Where did she sit on the ward?

3. What did she do while here?

4. Did her presence influence you in any way?

5. .... or influence the patients in any way?

6. Did her presence in the dayroom or office make any difference?

7. Did you forget her after a while?

8. How well do you think patients, in general, deal with behaviour problems?

9. What techniques do they use?

10. What proportion of their time do nurses spend with patients?

11. What proportion of their time do patients spend relating to one another?
TOWERS REACTIVITY INTERVIEW

QUESTIONS TO PATIENTS

1. Have you seen me before?

2. Where?

3. Do you know who I am?

4. What did I do when I came here?

5. Anything else?

6. Where did I sit?

7. Who was I watching?

8. Do you think you behaved differently because I was here?

9. Did my being in the office as compared to the ward make any difference? (and vice versa).

10. Did you forget I was here after a few minutes? (estimate)

11. Who do you think deals with patients best - nurses or patients?

12. What percent/proportion of the time do nurses spend with patients on the ward?

13. What percent/proportion of the time do you think patients spend interacting with each other?
Appendix 22
<table>
<thead>
<tr>
<th>VARIABLE NUMBER &amp; LABEL</th>
<th>NO TRAINING</th>
<th>TRAINING</th>
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<tr>
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<td>S.D.</td>
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<tr>
<td>1. NURSE REWARD APPROPRIATE</td>
<td>2.3</td>
<td>4.0</td>
</tr>
<tr>
<td>2. PATIENT REWARD APPROPRIATE</td>
<td>3.7</td>
<td>4.3</td>
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<tr>
<td>3. NURSE REWARD INAPPROPRIATE</td>
<td>0.02</td>
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<td>4. PATIENT REWARD INAPPROPRIATE</td>
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<td>5. NURSE PUNISH APPROPRIATE</td>
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<td>8. PATIENT PUNISH INAPPROPRIATE</td>
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<td>9. NURSE IGNORE APPROPRIATE</td>
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<td>0.7</td>
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<td>12. PATIENT IGNORE INAPPROPRIATE</td>
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<td>4.1</td>
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<td>13. NOTHING OBSERVED/ IMPOSSIBLE TO CLASSIFY</td>
<td>15.1</td>
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Results of the SRRS analysis of training effects (N = 67 observations) Chapter 12.
Appendix 23

### Results of the AECL analysis of training effects (N = 67 observations)

Chapter 12.

<table>
<thead>
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<th>VARIABLE</th>
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<tr>
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<td>SUPERVISION</td>
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<td>0.3</td>
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<td>2. PATIENT ORIENTATED:--</td>
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<tr>
<td>PERSONAL CARE</td>
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<td>3. PATIENT ORIENTATED:--</td>
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<tr>
<td>SOCIALIZATION</td>
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<td>4. PATIENT ORIENTATED:--</td>
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<td>TRAINING</td>
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<td>5. PATIENT ORIENTATED:--</td>
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<tr>
<td>OTHER</td>
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<td>6. NOT PATIENT:--</td>
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<td>LEISURE</td>
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<td>OTHER</td>
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Appendix 24

Means and standard deviations for the Behaviour Observation Instrument (B.O.I).
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<tr>
<td>(Eyes Open)</td>
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<td>5. SITTING</td>
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<td>6.3</td>
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<tr>
<td>(Eyes closed)</td>
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<td>6. LYING DOWN</td>
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<tr>
<td>(Eyes open)</td>
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<tr>
<td>7. LYING DOWN</td>
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<tr>
<td>(Eyes closed)</td>
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<td>8. DRINKING</td>
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<td>--------</td>
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<td>15. BEING GROOMED</td>
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<td>16. READING, WRITING, WATCHING T.V.</td>
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Results of the BOI analysis of training effects (N = 132 observations)
Chapter 12.
Appendix 25

Means and standard deviations for defining, formulating and planning while in classroom and on ward.
Means and standard deviations for three categories assessed at classroom and ward phases. (Chapter 12)
Appendix 26

Means and standard deviations for experimental and control groups of students.
### APPENDIX 26

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<td>60</td>
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Table presenting means and standard deviations from students assessment (Chapter 12)
Appendix 27

SIMULATED PROFICIENCY TEST (S.P.T.) RECORD SHEET

NAME__________________________DATE__________________________

Instructions:

Please watch the following 8 short pieces of film and select from the four possible answers that are provided, the one which best describes how you would react to the situation. Note that we are interested in what you would do in each situation, so try to put yourself into the circumstances shown in the film. Always circle one of the answers for each short episode, even though it may not be exactly how you would react. You will be given a maximum time allowance of 30 seconds to choose your answer after each film clip.

Episode 2

The patient shown here is unable to remove his shoe, despite the advice and encouragement of the nurse. What would you do next?

a Ask the patient to try removing the other shoe.
b Try making more helpful gestures.
c Tell the patient to get on with it by himself.
d Help by physically guiding the patient's hand through the necessary movements.

Episode 3

In the next clip of film you will see the patient setting the table, followed by the nurse giving him a cigarette as a reward. If you had been the nurse would you have:

a Also give a cigarette as shown, to reward the patient for helping set the table.
b Withhold the cigarette because the patient was behaving inappropriately by the time you could give the reward.
c Tell the patient to stop crouching in the corner.
d Ask him to set another table.

Episode 4

This piece of film again shows a patient having difficulty with this task. When she has finally completed placing the forks would you:

a Encourage her to work more rapidly.
b Use a physical prompt to help her gain confidence.
c Praise her as soon as possible after she finishes.
d Ask her to stop smoking, so she can concentrate on the task.

Episode 6

This time a patient asks for a cigarette. You expect he will soon reach out and help himself to a cigarette. If you were the nurse would you:

a Continue to reason with the patient.
b Tell him to go away.
c Give him a cigarette for showing his real need for one.
d Give up reasoning and be firm, e.g. by saying 'stop' and taking the cigarettes away.
Episode 7

The patient in this episode is using 'psychotic talk' to reply to the nurses question. The nurse ignores the 'mad' sentences, but then shows some interest in the sensible sentences. At this point, would you:

a  Indicate even more interest in what the patient says e.g. by asking further questions.

b  Contrive to nod and look at the patient

c  Choose this moment to end the conversation, since it has improved.

d  None of these things (a.b.c.)

Episode 8

During this scene one of the patients steals the other ones biscuit. Would you:

a  Give the male patient a replacement biscuit

b  Tell the female patient that she is selfish

c  Remove the male patient to another table.

d  Take the female patients biscuits away from her.

Episode 9

This sequence shows the nurse trying to coax a frightened patient to touch the toy mouse. Which of the following actions would you not take:

a  Demonstrate to the patient that the mouse can be touched without fear or harm.

b  Take the mouse away, so the patient stops associating it with her fear.

c  Try to find an intermediate step for the patient between putting her hand on the table and picking up the mouse.

d  Suggest she remains seated with her hand on the table until she stops feeling frightened.

Episode 10

In this last film clip we see a nurse interviewing a new patient. If you were the nurse, would you:

a  Be inclined to try and pin the patient down to giving a clear reply.

b  Go into more 'depth' concerning the patient's reason for admission.

c  Ignore the details and attempt to clarify the patients contribution to the problem

d  Try to reach a provisional diagnosis.
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<tr>
<th>Episode</th>
<th>Score</th>
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<tbody>
<tr>
<td>Episode 1</td>
<td>(Excluded)</td>
</tr>
<tr>
<td>Episode 2</td>
<td>d.</td>
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<tr>
<td>Episode 3</td>
<td>b.</td>
</tr>
<tr>
<td>Episode 4</td>
<td>c.</td>
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<tr>
<td>Episode 5</td>
<td>(Excluded)</td>
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<tr>
<td>Episode 6</td>
<td>d.</td>
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<tr>
<td>Episode 7</td>
<td>a.</td>
</tr>
<tr>
<td>Episode 8</td>
<td>d.</td>
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<tr>
<td>Episode 9</td>
<td>b.</td>
</tr>
<tr>
<td>Episode 10</td>
<td>a.</td>
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Appendix 28

"A comparison of two methods of teaching behaviour modification to mental handicap nurses"

(Published pilot study).
A Comparison of two Methods of Teaching Behaviour Modification to Mental Handicap Nurses*

Derek L. Milne

Psychology Department, Glenfrith Hospital, Groby Road, Leicester

The purpose of this experiment, carried out with 24 subjects in a matched groups design, was to evaluate two alternative forms of nurse training in behaviour modification. Knowledge, attitude and a simulated applied measure were administered before and after two 3-day workshops with a structured interview at 6-month follow-up. The knowledge and applied measures indicated significant improvements in the "active" group only. There were no significant changes on the attitude measure for any of the four groups. Follow-up data provided criterion validity for the simulated applied measure and also suggested that nurses had retained their knowledge of behaviour modification.

Introduction

Behaviour modification is moving into the "applied" era and can sometimes be "given away" (Burkart et al., 1976). Advances in behaviour modification and the arguments for the triadic approach (Tharp and Wetzel, 1969) make this both possible and necessary (Guerney, 1969). Nurses are the backbone of the mental handicap hospital service, and many have expressed a desire for improved training in treatment principles (Mitter, 1978). The Jay Report (1979) recommended that nurses should receive such training, and the National Development Group (1977) stated that regular in-service training courses should be provided for all nursing staff. Nurses in the fields of psychiatry and subnormality have been in the vanguard of attempts to "deprofessionalize" applied psychology (Gardner, 1972) and a variety of group sizes, teaching methods and goals have been involved (Guerney, 1969; Horner, 1973). However, there has been a tendency for unevaluated nurse training courses to predominate over research (Kazdin and Bootzin, 1973; O'Farrell et al., 1980). The existing literature in this area has rarely included follow-up.

Teaching mental handicap nurses

(Franks and Wilson, 1976; Mazza and Pumroy, 1975), or other data on "efficiency" (Patterson et al., 1970). Also, there has been a paucity of research designed to directly compare the methods by which nurses can best be trained. This study was designed as a provisional attempt to investigate these issues against the background of British National Health Service nursing which differs from the U.S.A. in staffing ratios and training (Hall, 1974). For example, U.S.A. nurses involved in behaviour modification are often graduates (Browning and Stover, 1971) although some research employs aides and attendants (Martin, 1972; Horner, 1971). Specific aims were (a) to evaluate two contrasting models of teaching as complete packages, with multiple measures of outcome; (b) to train nurses to more sophisticated levels than that of "technician" (Salzinger et al., 1970); (c) to supply data on efficiency.

The present research is limited by its heavy reliance on paper and pencil measures and other forms of self-report. No measures were standardized but one of them, the simulated performance test, has some criterion validity and as it also saves a great deal of professional time compared with observational methods (e.g. Gardner's training proficiency scale, 1970) it merits further development. Larger groups would be necessary to both consolidate the findings and to permit the standardization. A current research project involving the author is designed to deal with these issues, together with providing observational data on nurses competence.

Method

Design

There were four groups, two experimental ("trainees") and two control groups matched on five variables. The first trainee group was labelled "active" and the second "passive", reflecting the manner in which respective groups were introduced to behaviour modification. The active group of nurses (n = 7) received instruction largely via role-play, live and video-tape modelling, and lectures. The passive group (n = 5) were taught by more traditional ("Chalk and talk") pedagogic approaches including lectures, discussion, reading and demonstrations. These were supplemented by a programmed learning text (Milne, 1978a) and video-tape modelling. This emphasis upon role-play was the independent variable of the study. Both groups covered the same aspects of behaviour modification during 3-day workshops (15 h). Training was conducted by the author with assistance from the charge nurse of the hospital's behaviour modification unit.

Subjects

Thirteen subjects were assigned to the two workshops by the senior nursing
officer of the hospital who was unaware of the independent variable. His brief had been to provide two groups of six to eight nurses representing the grades 1 to 6 in the National Health Service (N.H.S.). Of these 13 subjects, one was omitted from the final analysis as she dropped out at the end of day two. The first group of nurses \( (n = 7) \) were included in the first workshop, which employed the "active" training approach, the second group \( (n = 5) \) in the "passive" workshop followed 1 month later. Subjects for each group were evenly drawn from the wards involved in the workshops. Between-group analysis of the subjects' age, sex, nursing grade, experience in behaviour modification and time spent working in subnormality hospital failed to indicate significant differences on these five variables for the groups and they were therefore considered to be matched. The control groups were selected from a larger number of nurses working on the same hospital wards as the trainees. This selection was based upon approximate matching on the relevant variables and willingness to participate. With the exception of one nurse (and her control, both in the adult unit) all 24 subjects worked in wards belonging to the children's unit of the hospital.

Procedure

Following a brief introduction welcoming the nurses to the workshop and outlining its purpose, trainees completed the three measures at the start of their respective courses. Control subjects were asked to "help evaluate ongoing training courses in the hospital", and were given two of the same measures on the same day as trainees. The third measure, a simulated performance test, was not administered to control groups. All groups then completed identical measures at the post-test 3 days later (for trainees this was at the close of their respective workshops). Between these pre- and post-tests trainees received 15 h of training, control subjects no such training. Identical copies were covered during each workshop and these are itemized in Table 1, along with an outline of the teaching method and time allocated to each topic.

If we consider a typical role-play such as in topic 5 the "active" trainees participated in a practical exercise requiring them to alternately role-play "trainer" and "patient". This involved the opportunity to apply a variety of prompts (gross and minimal, physical, gestural and verbal) and reinforcers (social, manipulable, primary) in a situation which had verisimilitude. Subjects were instructed to select a target response, and a goal before commencing as "trainer". They were to begin with substantial physical prompting gradually moving towards verbal prompts. Using the idea of successive trials over an imaginary period of several weeks the "patient" was to co-operate by gradually learning to respond and to do so with reduced prompting. This situation was made more realistic by such ploys as blindfolding "patients" and requiring
### TABLE 1: Breakdown of workshop content by time allocated and method of teaching

<table>
<thead>
<tr>
<th>Topic</th>
<th>Time allocated (min)</th>
<th>Method of teaching</th>
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<tbody>
<tr>
<td><strong>(1) Pre-test</strong></td>
<td></td>
<td></td>
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<tr>
<td><strong>(2) Defining operant behaviour; learning theory and reinforcement</strong></td>
<td>135</td>
<td>Lecture, blackboard diagrams, role played demonstration of antecedent (A) behaviour (B) and consequence (C) sequence</td>
</tr>
<tr>
<td><strong>(3) Recording and functional analysis</strong></td>
<td>70</td>
<td>Lecture, use of blackboard diagrams and followed by role-playing by pairs of subjects. Each pair observed by remainder of subjects, who do recording</td>
</tr>
<tr>
<td><strong>(4) Goal setting</strong></td>
<td>30</td>
<td>Lecture and practical, involving selecting realistic goals for a list of target responses</td>
</tr>
<tr>
<td><strong>(5) Prompting</strong></td>
<td>100</td>
<td>Lecture, video, model and practice in applying techniques of prompting in role-played, &quot;self-help&quot; contexts. Discussion</td>
</tr>
<tr>
<td><strong>(6) Shaping and backward chaining</strong></td>
<td>30</td>
<td>Lecture, live demonstration and role-play</td>
</tr>
<tr>
<td><strong>(7) Extinction, time out and differential reinforcement of other behaviour (D. R. O.)</strong></td>
<td>60</td>
<td>Lecture, role-play in &quot;problem behaviour&quot; context</td>
</tr>
<tr>
<td><strong>(8) Case studies relating to items 4, 5, 6 and 7</strong></td>
<td>70</td>
<td>Lecture, discussion, blackboard diagrams</td>
</tr>
<tr>
<td><strong>(9) Designing and implementing behavioural programmes: (a) Toilet training</strong></td>
<td>90</td>
<td>Lecture, role-play in pairs</td>
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<tr>
<td><strong>(b) Dressing and undressing</strong></td>
<td>25</td>
<td>Lecture, role-play in pairs</td>
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**Notes:**
- "Active" refers to the group engaged directly in the teaching process.
- "Passive" refers to the group observing or listening passively.
- "Programmed learning" typically involves structured materials and guidance from the instructor.
- "Role-play" simulates real-life scenarios for practice.
- "Discussion" encourages group interaction and debate.
- "Video demonstration" provides visual examples for better understanding.
- "Designing and implementing" involves hands-on activities for programme development.
TABLE 1.—Continued

<table>
<thead>
<tr>
<th>Topic</th>
<th>Time allocated (min)</th>
<th>Method of teaching</th>
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<tbody>
<tr>
<td>(c) Feeding</td>
<td>45</td>
<td>Lecture, role-play</td>
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<tr>
<td>(10) Maintaining</td>
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<td>in pairs</td>
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<tr>
<td>behaviour change</td>
<td>90</td>
<td>Lecture, role-play</td>
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<td></td>
<td></td>
<td>focusing on changing schedules and types of reinforcement in self-help context</td>
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<tr>
<td>(11) Post-test</td>
<td>30</td>
<td>Lecture, programmed learning and discussion</td>
</tr>
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</table>

Trainees received pre- and post-test assessment on three measures: a knowledge questionnaire, a simulated performance test and an attitudinal scale. Subjects completed all three in 30 min. Control group subjects received the knowledge and attitude measures. All groups were interviewed 6 months after the completion of the post-test. The knowledge questionnaire utilized a multiple, forced choice format and included 22 questions selected from the work of Peine and Howarth (1975). Since they did not standardize these questions, the reliability of the questionnaire was examined in the present research. Spearman's test-retest reliability for all non-trainee nurses (n = 10) on this measure was \( r = 0.92 \). O'Dell (1979), obtained a similar reliability coefficient (0.94) for his knowledge of behaviour modification measure.

The simulated-performance measure consisted of six multiple-choice questions to be answered following pre-selected pauses in a video-tape sequence of a behaviour modification training session. Trainees were asked to assume that they were the trainer and to choose an answer which indicated how they would respond to the child in each sequence of film. Attitude to the subnormal child was measured by a semantic differential (Becker, 1960). This consisted of 21 bipolar constructs. Trainees completed this bearing in mind a
subnormal child they knew well on their ward. Matched control subjects were then asked to complete the same measure for the same child.

At follow-up, trainees were asked 20 pre-selected questions (Milne, 1978b). Six of these were drawn from the knowledge measure and the remainder related to (1) the application of behaviour modification techniques to children on the wards; (2) the subjects' reflections on behaviour modification and the workshop; (3) the influence of these on their work. Individual interviews were conducted by a Civil Service trained interviewer, blind to the group assignment. Control subjects were contacted by telephone by E and asked if they had carried out or participated in any behaviour modification programmes during the same 6-month period.

Results

Table 2 presents the raw data from the knowledge questionnaire, together with means and standard deviations, for "active" and "passive" groups together with their matched control group subjects. These data were analyzed using the Wilcoxon test (Hays, 1973). There was a significant ($P < 0.025$).

<table>
<thead>
<tr>
<th>Active</th>
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TABLE 2. Means and standard deviations (S.D.) for all experimental and control subjects on the knowledge questionnaire

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post-test improvement in the case of the "active" group and a non-significant trend to do better at post-test by the "passive" group. No other significant differences were found. These results and the analysis of the knowledge questionnaire data suggest that the "active" training approach led to a better knowledge of behaviour modification.

Data from the simulated performance measure were analyzed by the Wilcoxon test, with only one significant difference appearing: the "active" group did better at post-test ($P < 0.05$). There were no significant pre- or post-test differences between groups. As with the knowledge measure there were no "ceiling" or "floor" effects. This result suggests again that the "active" group members did best on this measure.
The semantic differential data were analyzed across the five factors derived by Patterson and Fagot (1967). Data for each factor were computed so as to compare within (correlated t test) and between group differences (Mann-Whitney “U” test) for all groups, pre and post. No significant differences were found on any of the factors, although there is a clear tendency for all four groups to hold a more favourable evaluation at post-test. This result indicates that the workshops had no significant influence on subjects attitudes to specific subnormal children.

Follow-up data were obtained from 10 trainees. The remaining two subjects were unavailable, due to illness and leaving the hospital. All of the “active” groups subjects (n = 6) reported having carried out ward-based, behaviour modification programmes. Only half the “passive” group (n = 4) had done so. Of the total of eight trainees who did carry out such programmes, one from each group chose to focus on “problem behaviours” (head-banging and “temper tantrums”).

The majority dealt with “self-help” skills (including toilet training, tooth brushing, feeding, undressing and handwashing). In these different behavioural areas the “active” group involved at least 17 subnormal children, while the “passive” subjects had at least four children participating in their programmes. Techniques employed were similar for both groups of trainees: prompting (all types) and backward chaining. Contingencies used were positive reinforcement and time-out. This contrast in the application of behaviour modification cannot be attributed to differences in the ward from which experimental groups were drawn, since trainees from both groups worked in the same wards. Of the control groups, one subject had carried out a toilet-training programme involving two children and a second had assisted a trainee. Both trainee groups showed slight increases on the knowledge questions at follow-up. They also felt that behaviour modification was the best (n = 7) or one of the best (n = 2) approaches and that the workshops had helped them to understand and use this approach. They believed that the workshops had led them to hold a more favourable attitude towards the subnormal child. Finally, nurses said that the training had led to increased work interest, competence and work skills.

Discussion and conclusion

Despite the limitations of this study the results, while tentative, indicate that mental handicap nurses of grades from auxiliary to charge nurse/sister can demonstrate an understanding and select appropriate behaviour modification courses of action following only 15 h of training. This was particularly true of the “active” group, who did significantly better than “passive” group trainees.
on these knowledge and simulated performance measures. These nurses also reported carrying out more ward-based programmes and trained more children than their "passive" counterparts. These results suggest that using the more effective package nurses can be trained to perform at the "generalist" (Horner, 1971) level of sophistication. Most researchers, however, have only had their nurses achieve "technician" levels (Saltzinger et al., 1970) of competence in 15 h of training (these levels differ in range of techniques and degree of structure provided). Only following 45 h have generalist levels been attained and in this case one third of the nurses did not carry out any ward-based programme (Martin, 1972).

It is difficult to explain the apparent discrepancy in the impact of training without more information about course content, the use of pedagogic methods, and subjects. This research is an attempt to provide such information. As regards pedagogic methods the major independent variable (the use of role-play) has been outlined above. It should be noted that this method fosters different kinds of learning (e.g. "by discovery", "observation") which could in principle be isolated and evaluated separately. Hence, there is a package (role-play, types of learning) within a package (the workshop). This research has emphasized the former package as the crucial variable in these workshops.

It is difficult, in practice, to control for such factors as "enthusiasm" on the part of both subjects and E during the active workshop. Perhaps this should be viewed as a corollary of role-play as a teaching method, rather than as an independent biasing factor.

It would be of vital interest and concern to evaluate more thoroughly the behaviours of both trainees and their patients subsequent to the workshops (Berger, 1979), but this represents a vast undertaking. In the present research there was no systematic observation of the nurses during the implementation of their ward-based programmes and so one must be very cautious in assuming stimulus generalization from workshop to naturalistic settings. The use of a simulated performance test may hold promise as an alternative or additional performance measure as it results in great savings of professional time and has some criterion validity. Allied to the use of role-play in training, these two indices might usefully be employed jointly as a measure of competence in applying behaviour modification techniques. Observational probes made on ward-based programmes could then serve to monitor and evaluate both nurses performance skills and the conditions that maintain them as well as these two measures. Further research into this is being conducted by the author. Additionally, it would be interesting to investigate the impact of workshop trainees in the wider context of their wards, for example their influence of colleagues and non-targetted patient behaviours, perhaps viewing these within a longer-term, "ecological" framework (Willems, 1973).
Finally, there is the issue of "efficiency" (Patterson et al., 1970). In the present study this relates primarily to amount of professional time and follow-up data. Both aspects are generally absent from the nurse-training literature. It is therefore only possible here to state the amount of time committed to these workshops. Course preparation required 20 h for the "passive" group and 10 h for the "active" subjects. This difference was due to the preparation of written material for the former. Once the workshops were under way it would in principle be possible to redress the imbalance by leaving "passive" group nurses to study without supervision. In practice, however, it was felt necessary to be with both groups throughout to assist and encourage them. Overall, therefore, the "active" workshop was less costly to prepare and required the same amount of time to run (15 h). As this type of training also appears to be more effective in the short and longer term and is definitely preferred by nurses themselves it would seem to be the better package to develop.

Acknowledgements

Thanks to Dave Orron for his assistance in running the workshops; to Keith Turner for his help in preparing this report; to nursing staff and colleagues at Glenfrith Hospital, and to Leicester Area Health Authority for supporting the research.

References


(Date received: 5 August 1980)
Appendix 29

Summary of all measures used in the research.
A summary of all measures employed in the research.

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<tr>
<th>ACRONYM</th>
<th>FULL TITLE AND AUTHOR</th>
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</tr>
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<td>BEHAVIOUR THERAPY PROFICIENCY RATING SCALE</td>
<td>BEHAVIOUR THERAPY PROFICIENCY RATING SCALE&lt;br&gt;Milne, D.L. (1981) unpublished.&lt;br&gt;Psychology Department, Stanley Royd Day Hospital, Wakefield, WF1 4DQ</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Description</td>
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