IV. THE EVALUATION OF A STRUCTURED APPROACH TO WORKING WITH SEVERELY MENTALLY HANDICAPPED ADULTS

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INTRODUCTION

There is a substantial body of evidence both from research and from practice which indicates that mentally handicapped people of all ages are able to develop their abilities and respond to skilled teaching (National Development Group 1977 p.7). It may be impractical to begin individual skill training if this means leaving the remainder of a group unattended. This problem is very apparent within situations such as the Special Care Unit of an Adult Training Centre (ATC).

One approach for staff working within group situations has been the use of activity period and room management procedures. Whilst using these procedures, improvements have been found in maintaining engagement in activities in various settings, e.g., a ward for severely handicapped adults (Coles and Blunden, 1979), in the Special Needs Unit of an ATC (Porterfield & Blunden 1978) and in a class for profoundly handicapped children (McBrien and Weightman, 1980). Room management procedures have been successfully combined with individual skill training, involving a staff-trainee ratio of approximately 1:3 (Porterfield and Blunden, 1978).

Porterfield *et al.* (1980) report that staff spoke positively about room management procedures. The attitudes of staff towards trainees and the procedures have not been emphasised in the research within this area. Staff attitudes may be one factor influencing whether such procedures are maintained in the long term. Choice of activities for such groups requires careful consideration, but some studies report few details of the activities, e.g., Coles and Blunden (1979).

AIMS OF THE STUDY

The purpose of the study was to increase the participation of trainees in appropriate activities, develop skills and to increase staff-trainee interaction, thereby decreasing the inappropriate activities of trainees. An hour of activities was established, during which room management procedures were used, together with individual skill training towards specified goals. Following assessments, a choice of activities for group members took place. The attitudes of staff towards their trainees and towards the intervention were investigated.

METHOD

Setting for the Research and the Participants

The research took place within the Special Care Unit of an A.T.C. The Unit had 10 full-time trainees and 8 of these were the subjects of the research. As a group they presented a number of problems and had not been accepted in the main part of the A.T.C. Most trainees required help with washing and dressing; two had no spoken language; and five presented behaviour problems — self-injury, shouting, etc. The Unit had two instructors in the mornings, and one in the afternoon. A Care Assistant was present all day with the group. A control group was used for part of the study (for the attitude measures). This consisted of trainees from the main part of the A.T.C.

One hour of the morning was scheduled for table-top activities such as threading, jigsaws, etc. It was this hour that was then restructured during the intervention. About four weeks before the study began, new toys had arrived in the Unit and were in regular use before the study started.

Procedure

Baseline Phase

During five days immediately preceding intervention, observational measures of trainee behaviour and staff-trainee interaction were taken. Also, staff attitudes towards their trainees were assessed.

No changes in organisation took place in the Unit. Staff worked with the trainees during the hour of activities usually by sitting between two trainees and no assessments had been completed, nor goals set. Toys were available and used throughout this period. Prior to any measures being taken, the nature of these and of the intervention were discussed with all the staff.

Intervention Phase

This took place over 11 days and no measures were taken in this period. The intervention was organised into four stages:

a) *Assessment of Skills* — Each of the eight trainees was assessed using the P.I.P. Chart (Parental Involvement Project) compiled by D. M. Jefree and R. McConkey, Hester Adrian Research Centre.

b) *Setting Individual Goals* — A goal for each trainee was decided upon by discussion with the instructors. Goals were based upon areas of deficit revealed by the P.I.P. chart.

c) *Devising Activities for the Activity Hour* — Suitable activities for each trainee to undertake during the activity hour were discussed with the instructors. Three activities were selected for each trainee. These were within their developmental level or were a continuation of activities being developed in the individual session.

d) *Introduction of the Room Manager Procedure* — Before the research study, it was practice during the activity hour for instructors to remain seated at the tables and work with trainees on either side of them. Following introduction of the room manager procedure, instructors alternated between Room Manager and working individually with trainees. The role of the Room Manager was the same as that outlined by Coles and Blunden (1979) and involved remaining standing so all trainees could be seen; praising busy trainees and when it was noticed they had completed a task; prompting trainees who did begin using the equipment etc.

The second instructor (and care assistant, if available) worked with individual trainees towards their goals. Before the Group Manager procedure took place, the procedure was modelled during one session by the researcher. During two subsequent sessions, each instructor tried the procedure whilst being observed by the researcher and remaining instructor. Feedback was given and difficulties were discussed, e.g. arrangement of tables.

Phase Immediately Following Intervention

Immediately following intervention measures of trainee behaviour and staff trainee interaction were taken. The measures were collected during five days. The procedures of room management and working towards goals were in operation.

Follow-Up Phase

Over a seven month period, eleven measures of trainee behaviour and staff trainee interaction were taken at regular intervals. Within the first month, staff attitudes towards

their trainees were re-assessed. Attitudes towards the intervention and the number of goals achieved by trainees were assessed during this period. Throughout the phase the procedures of room management and working towards set goals were continued.

Outcome Measures

1. *Observational Measures of Trainee-Behaviour and Staff-Trainee Interaction.*

These measures were the same as those used by Coles and Blunden (1979). Using a momentary time sampling technique, trainee behaviour was classified as engaged, neutral or inappropriate. Engaged behaviour included participation in activities, etc., whilst all undesirable behaviour was classified as inappropriate. Other behaviour e.g. sitting doing nothing were recorded as neutral. Trainees were observed sequentially at 15 second intervals for 15 minutes during each half of the activity hour. The second observational measure of interaction was recorded for two periods of 5 minutes — instructors were observed for 5 seconds with a 15 second interval between observations. Interaction involved an instructor interacting positively with trainees within the 5 second interval, e.g. prompting, praising.

Reliability measures were taken on six occasions. Bartko and Carpenter (1976) suggest using a Kappa (K) reliability method. Kappa values ranged between 0.85 ($p<0.00006$) and 0.98 ($p<0.00006$) for the trainee measures and between 0.79 ($p<0.00006$) and 0.93 ($p<0.00006$) for the interaction measure. These findings indicate that the measures were reliable. Percentage agreement varied between 90-100% for the two measures.

2. *Measures of Staff Attitudes Towards the Trainees*

An adaptation of the Becker Semantic Differential Scales (Becker 1960) was used, consisting of 54 adjective pairs, to which two other bipodal scales had been added, i.e. pleasant/unpleasant to work with and easy/difficult to maintain interest in a task. In addition, an Attitude Inventory was used which had been designed by the researcher and consisted of six questions each involving a five point rating scale. The questions asked about whether the staff considered that an individual trainee's behaviour had changed, etc.

3. *Measures of Staff Attitude Towards the Intervention*

The Attitude Towards Intervention Questionnaire was devised by the researcher. It consisted of eight, five-point rating scales and two open-ended questions asking about feelings towards the Group Manager Procedure, setting goals, etc.

A semi-structured interview with staff was conducted by a Psychologist (not familiar with the ATC). Questions were phrased to allow staff to express negative views. The questions included asking whether the intervention had been useful, whether the approach interfered with the running of the Unit, etc.

4. *Goals Attained*

An index card was completed for each trainee and stated the goals set for each trainee and details of progress.

RESULTS

1. *Measure of Trainee Behaviour*

The mean percentage of engaged, neutral and inappropriate behaviour for the group was calculated for each phase of intervention and is shown in Table 1:

Table 1

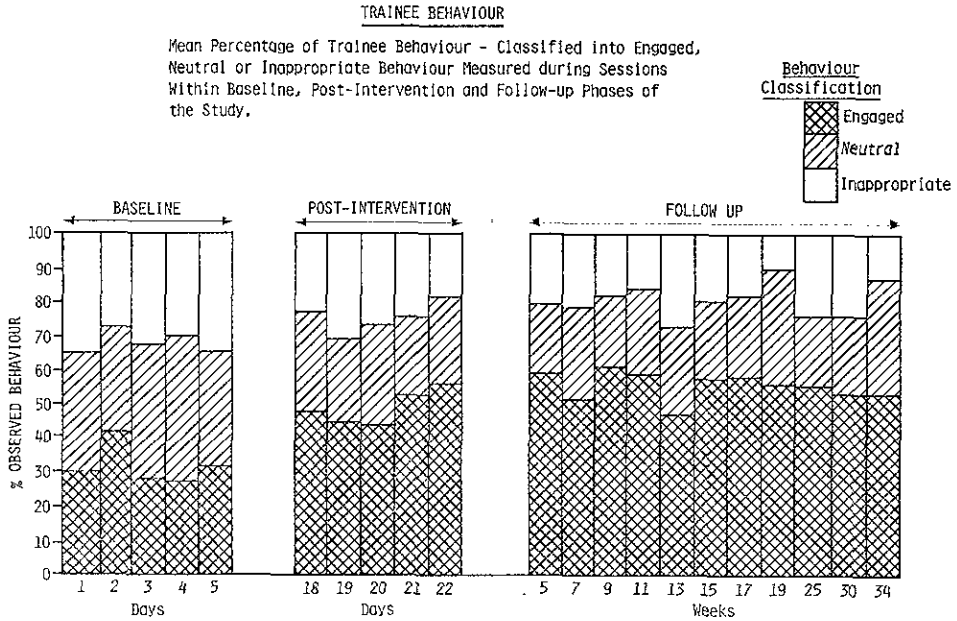
Mean Percentage of Trainee Behaviour
(Engaged, Neutral or Inappropriate Behaviour)

Behaviour	*Baseline phase*		*Post-Intervention phase*		*Follow-Up phase*	
	Mean %	*S.D.*	*Mean %*	*S.D.*	*Mean %*	*S.D.*
Engaged	31.4	5.6	48.3	5.2	55.3	4.3
Neutral	35.8	4.4	26.5	2.6	24.5	4.6
Inappropriate	32.8	3.1	25.2	4.9	20.3	4.7

Engaged behaviour increased from 31% at baseline to 48% immediately after intervention and then to 55% at follow-up. All trainees showed this improvement in engagement.

One-way ANOVAs indicated that there were significant differences between the different phases for the factor engaged behaviour ($F=13.2$, $p<0.001$) and inappropriate behaviour ($F=5.9$, $p<0.025$), but not for the factor neutral behaviour. A Newman-Keuls procedure indicated that the level of engagement at baseline was significantly different from that immediately after intervention and at follow-up ($p<0.01$); inappropriate behaviour at baseline was significantly different from that at follow-up ($p<0.05$). Figure 1 shows the levels of engaged, neutral and inappropriate behaviour for each session:

Figure 1



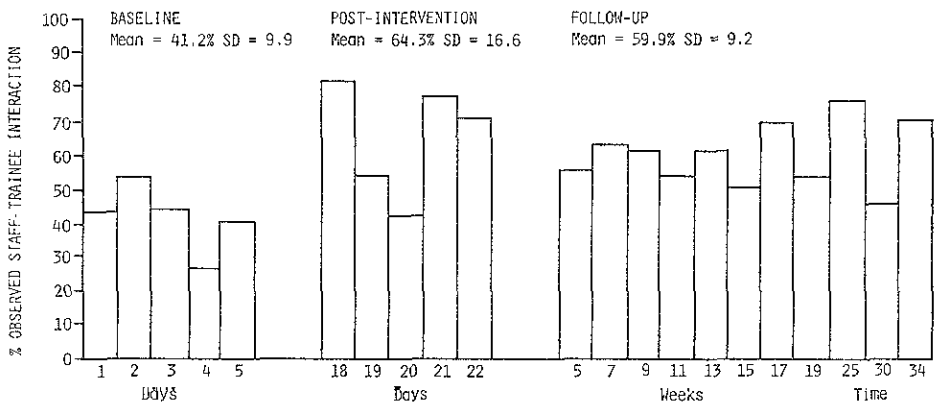
2. *Measure of Staff-Trainee Interaction*

The mean percentage of staff-trainee interaction observed during sessions within baseline, post-intervention and follow-up phases is shown in Figure 2:

Figure 2

STAFF - TRAINEE INTERACTION

Mean Percentage of Staff-Trainee Interaction observed during sessions within baseline, post-intervention and follow-up phases of the study.



A one-way ANOVA indicated a significant difference in the factor interaction ($F\ 2,4 = 8.3$, $p<0.05$). A Newman-Keuls procedure suggested that the interaction during baseline was significantly different from that immediately after intervention only ($p<0.05$). So, staff-trainee interaction increased after intervention. In addition, a positive correlation was found between the level of trainee engagement and staff trainee interaction ($rg = +0.46$, $p<0.05$).

3. *Measures of Staff Attitudes Towards the Trainees*

a) *Semantic Differential*

The semantic differentials were summarised using the analysis of Becker (1960) and Marks (1966). The following mean factor scores were calculated: evaluative, intelligence, conduct, aggression, relaxed, hostile/withdrawn. The two additional bipolar scales were analysed as separate factors.

The ANOVAs of one instructor's results revealed a significant treatment effect for the factor intelligence ($F\ 1,14 = 10.14$, $p<0.006$) and a significant interaction effect on the factor intelligence ($F\ 1,14 = 7.54$, $p<0.016$); and a significant interaction effect on the factor pleasant to work with ($F\ 1,14 = 13.76$, $p<0.002$). Subsequent T-tests found that the experimental group had significantly higher scores on the factor "intelligence" after intervention than before ($T = 3.37$, $DF = 7$, $p = 0.012$), whilst the T-test found no significant difference for the control group on this factor ($T = 0.46$, $DF = 7$, $p = 0.66$). T-tests on the factor pleasant to work with found that the experimental group were significantly *more* pleasant to work with after intervention ($T = 2.76$, $DF = 7$, $p = 0.026$), whilst the control group were significantly *less* pleasant to work with ($T = 2.5$, $DF = 7$, $p = 0.04$). These findings suggest the instructor saw the trainees as more intelligent and pleasant to work with after intervention.

The ANOVAs of the second instructor's results found no significant treatment nor interaction effects. Significant differences were found between the experimental and control groups on the factors aggression ($F\ 1.14=6.06$, $p<0.03$) and conduct ($F\ 1.14=12.23$, $p<0.003$), with the control group being less of a conduct problem and less aggressive than the experimental group.

b) *Attitude Inventory*

Answers were classified according to whether the instructors had reported a positive change in skill/behaviour, no change or a negative change. Fisher's Exact Test of Probability was performed to analyse the data. Table 2 shows the results:

Table 2

Fisher's Exact Test of Probability — Comparing Change
in the Experimental and Control Groups Using the Attitude Inventory

Behaviour	*Results Fisher's Exact Test*	
	Instructor 1	*Instructor 2*
Communication Skills	No difference	No difference
Eye-Hand Co-ordination	No difference	No difference
Play Skills	No difference	p 0.02*
Involvement in Tasks	p 0.02*	p 0.02*
Problem Behaviours	No difference	No difference

*The direction of change was such that the experimental group had improved, whilst the control group had not changed.

The Attitude Inventory suggested that the instructors both reported the trainees in the experimental group were more involved in tasks after intervention and one instructor reported that trainees in the experimental group had improved in their play skills. Also, instructors reported that the individual sessions were not helpful for all trainees.

4. *Measures of Staff Attitudes Towards the Intervention*

The attitude towards intervention questionnaire consisted of eight, five-point rating scales and two open-ended questions. The rating scales were scored 1 to 5 (five being the answer that would indicate the most favourable attitude). Hence, the questionnaire had a maximum of 40 points, and totals over 24 indicated a positive attitude. The following totals were obtained: 31, 34 and 35, and it was considered that overall staff attitudes towards the intervention were positive. Staff reported that a Psychologist could be helpful in a Special Care Unit by advising on problem behaviours, training programmes. The modelling done by the Psychologist had been useful; also the explanation of the intervention would have been more suitable when no trainees were present.

During the semi-structured interview, all staff reported having found the Psychologist's intervention useful and that suggestions were practical and had not interfered with other aspects to running the Unit, e.g., physical care of the trainees. All staff wanted to continue the procedures set up. They found having guidelines/something specific to work for was useful. Some critical remarks were also made e.g. they would have liked more explanation before the intervention started. The request was made for further help with behaviour problems.

5. *Attainment of Goals*

Table 3 summarises the outcome of the goals set over a period of seventeen weeks:

Table 3

Goals Attained

	Number	*Percentage*
Goals Attained	10	50
Goals attained, but continued	2	10
Goals not attained, but continuing	5	25
Goals discontinued	3	15
TOTAL GOALS	20	100

DISCUSSION

Following the intervention, both the levels of engagement of the trainees and staff trainee interaction increased. These findings suggested that giving the staff a clear structure and guidelines led to beneficial effects.

The engagemen levels at follow-up were lower than those found in some previous studies (e.g. Porterfield *et al.* 1980; Porterfield and Blunden 1978). There were several possible reasons for this. First, the Room Manager procedure was not always followed closely, e.g. too many contacts with trainees who were not busy. Secondly, skills were being taught *within* the group situation, whereas Porterfield and Blunden (1978) carried out their teaching *outside* the group. While learning activities engagement may not be as high as when proficient in the skills. Third, subjects in the present study may have been more handicapped and supporting this possibility was the finding of McBrien and Weightman (1980) of lower engagement levels whilst using Room Management techniques with profoundly handicapped children. All three reasons could be involved in the levels of engagement found in the study, in particular it was considered that the first and second suggestions were important.

Staff-trainee interaction was found to be positively correlated with the trainees level of engagement. Although the correlation was small (+0.46) and causality cannot be inferred from this data, the finding did point to the importance of staff behaviour in maintaining interest in tasks for a group of severely handicapped adults.

Staff attitudes towards trainees showed few changes when measured by the semantic differential. This was not unexpected in view of the short length of intervention and the few additional skills acquired by trainees. Both instructors did report attitude change when measured by the attitude inventory. This measure could have been investigating a more general attitude change, rather than the clear, more precise factors of the semantic differential.

Changes were found in involvement in tasks for the trainees, but no reduction in problem behaviour was reported. This was in contrast to the observational data that inappropriate behaviour declined. One explanation for this may be that much of the change that was observed was in stereotyped behaviour, rather than the problems of shouting, S.I.B., etc. Also no measure of behaviour was taken outside the session and changes within the session may not have generalised to other times of the day, whilst answers to the Attitude Inventory could have related to behaviour both inside and outside sessions.

Staff attitudes towards the intervention were positive and staff wanted to continue the procedures that had been set up. The request for more help with behaviour problems would be consistent with their view that these problems had not reduced.

Fifty per cent of the goals set were achieved, whereas Porterfield and Blunden (1978) reported that 79% of goals set were achieved within a Special Needs Unit. There are several reasons for the difference between these findings. First, the present study had a lower staff-trainee ratio and, second, Porterfield and Blunden ran a workshop on goal setting and taught skills *outside* the group. Also, it was noted that the Individual Helper did not always work towards the specified goal and some trainees received more individual sessions than others. Scheduling of individual sessions could help to overcome this. In addition, the P.I.P. Chart was not considered detailed enough to facilitate goal setting.

No evaluation of the choice of equipment was made. It was observed that for the most handicapped trainees, equipment which made a noise was useful both in terms of goal attainment and engagement, e.g., ringing a bell on the Activity Centre.

Implications of the Study

The study suggested that the introduction of Room Management procedures, assessments and goal setting within a Special Needs Unit could be followed by beneficial effects for trainees and staff. The establishment of a structured approach for a period of the day was found to be an appropriate part of the curriculum and to fulfill some needs of the severely handicapped within such Units.

The study pointed to the necessity for in-service training of Day Centre staff, and for support of staff to maintain procedures in the long-term. Staff also requested further advice concerning behaviour problems. These areas could all lead to a clear role for Psychology services within Day Centres.

As the trend towards Community Care increases and more severely handicapped people are maintained outside large institutions, so the need for the development of suitable group activities in various settings becomes apparent. This study demonstrated the value and practicability of one type of structured approach to group activities.

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