

DEVELOPING COPING SKILLS IN MENTALLY HANDICAPPED ADULTS USING STRUCTURED TEACHING PACKAGES

BARBARA SPEAKE and EDWARD WHELAN*

INTRODUCTION

Systematic skills teaching in habilitation programmes for mentally handicapped adults is widely accepted now as standard practice. Much of the research and practitioner literature over the past decade has been concerned with reports of individual skill development programmes or larger scale attempts at defining a curriculum and various strategies for teaching the individual objectives of the curriculum (Bender and Valletutti, 1976; Bernstein et al, 1981; Popovich and Latham, 1981; Wehman and McLoughlin, 1980).

Individual self-help skills have received much attention, for example, meal time behaviour (Eaton and Brown, 1974), shopping (Matson, 1981), leisure (Matson and Andrasik, 1982), and toilet training (Azrin and Foxx, 1971) using a range of behavioural and teaching techniques.

Yet resource materials, in the form of structured teaching packages for use by practitioners, both trained and untrained, are still somewhat elusive, either because of cost considerations; inappropriateness for use with an adult population; the requirement for expensive equipment in order to use them; time needed to read the materials; or the style being considered overprescriptive. Thus many cupboards remain full of materials which have not been used for years.

THE HABILITATION TECHNOLOGY PROJECT

An attempt to remedy the gap between what research has shown to be possible in developing skills in mentally handicapped adults and what resource materials practitioners will find acceptable was afforded by a six year 'action research' project, known as the Habilitation Technology Project (Whelan, Speake and Strickland, 1984a). The ultimate goal of the project was to produce a set of habilitation packages which were thoroughly evaluated and in use in the field by practitioners. The study methodology involved collaborating with 40 Adult Training Centres in the North-West of England. Ten Adult Training Centre Managers formed a Consultancy Group to the Project, and 30 ATCs were invited to act as an independent Field Trials Panel.

The complete curriculum produced by the Project, known as the Copewell Curriculum is reported elsewhere (Whelan, Speake and Strickland, 1984b). The teaching packages* which emerged as 'prototypes' during the study conformed to the same general format, using the headings: **objective** (which states what the student will be able to do upon successful completion of the package), **prerequisite knowledge and skills** (which relates the package to other packages in the system), **preparation** (specifies the resources that the user will need to collect before applying the package), **application of the teaching package** (provides guidance on how to select students for the package, how to pretest for existing knowledge and skills and also suggested teaching sessions), **reviewing and recording student progress** (provides guidance on how to use the record forms provided) and

*Habilitation Technology Project, Hester Adrian Research Centre, The University, Manchester M13 9PL.

creating opportunities for students to apply knowledge and skills (provides some indication on how the skills learned in the package may be transferred or generalised to other settings). This format, as stated earlier, evolved during the course of the project and was found to be acceptable to staff, both in terms of the framework of the Centres and in terms of timetabling and grouping of trainees (Whelan and Speake, 1983). The format is also similar to that devised by other workers, for example, Matson and Andrasik, 1982; and Wehman, 1979.

RESULTS OF APPLYING STRUCTURED TEACHING PACKAGES

During the course of the research, in order to ascertain whether packages were succeeding in teaching their specified objectives, the responses of students were recorded using record forms. An example of a record form, in this case for package 1.1 Washing hands, is given in Figure 1.

Students participating in package trials were typical of the range of individuals attending ATCs (Speake and Whelan, 1985). For the purposes of evaluation, staff were asked to provide up to 12 trials per student, ceasing before this if, over three successive trials, a total of 3 or fewer errors were made. In a typical teaching situation, however, staff would normally continue beyond 12 teaching trials, especially where progress is being made.

TABLE 1: Mean Percentage Errors of Students by Package

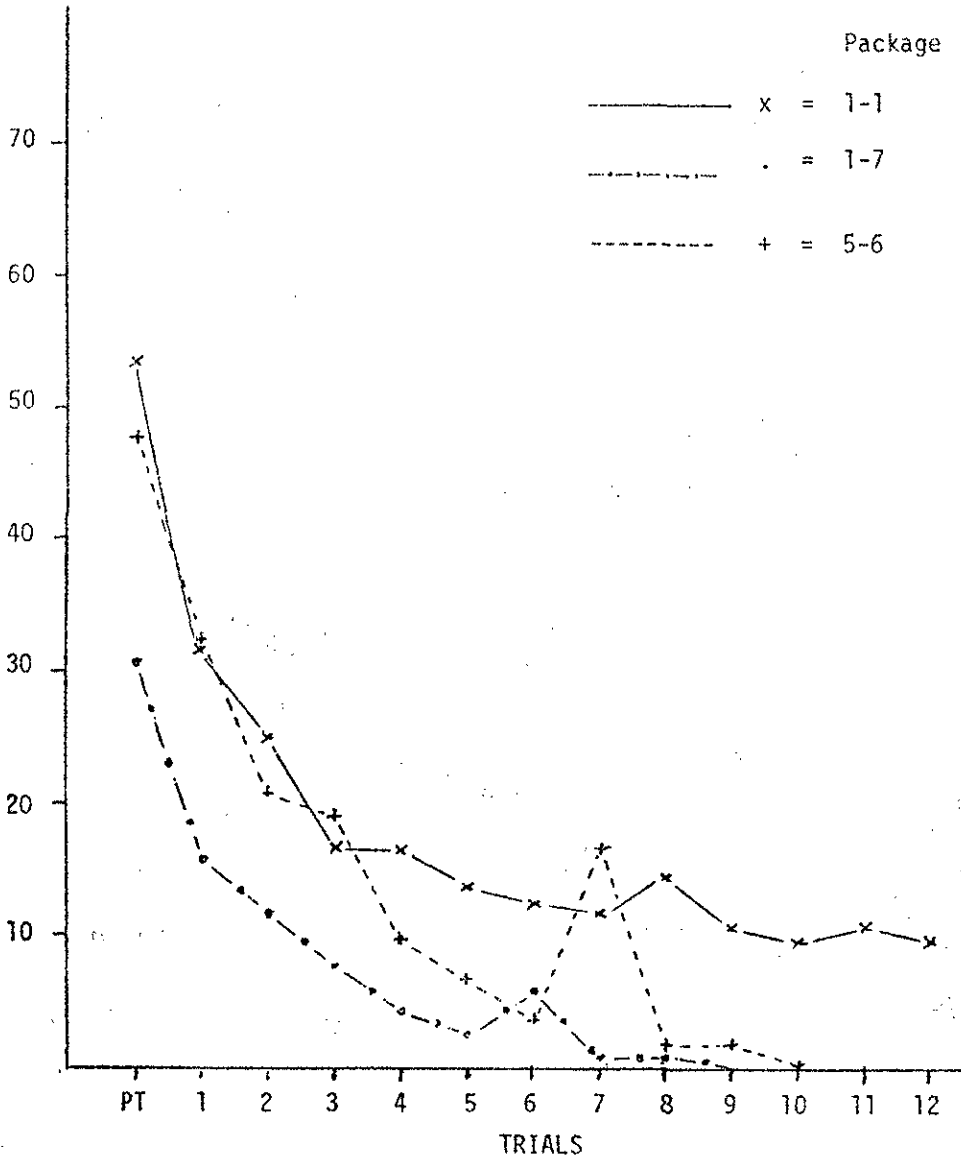
Package number	Number of steps	Number of students	Total Possible Errors	Pre-Test	1	2	3	4	5	6	7	8	9	10	11	12	Achieving Criterion
1.1	21	12	252	53.6	31.7	25.0	16.7	16.7	13.9	12.3	11.9	14.3	10.7	9.5	10.7	9.5	8
1.2	25	12	300	39.3	19.0	11.0	8.7	6.3	5.3	4.7	5.0	0.7	0	0	0	0	11
1.3	22	6	132	37.1	33.3	25.8	20.5	12.1	14.4	9.8	2.3	2.3	2.3	2.3	1.5	0.8	3
1.5	18	12	216	49.5	31.9	25.9	17.6	13.9	7.4	6.5	3.7	3.7	0.5	0	0	0	8
1.6	24	12	288	31.5	27.4	25.3	17.0	12.8	13.2	8.7	7.3	3.8	1.7	0.7	0	0	7
1.7	23	12	276	30.8	15.9	11.6	7.6	4.0	2.2	5.1	0.4	0.4	0	0	0	0	11
1.11	25	12	300	54.7	36.7	33.0	34.3	31.7	22.3	27.0	22.7	25.7	31.0	29.3	28.7	25.3	4
3.1	12	12	144	50.7	48.6	30.6	22.9	15.3	9.7	13.2	11.8	9.7	12.5	6.9	3.5	4.9	9
3.2	25	12	300	50.3	35.7	28.7	14.3	11.7	9.0	6.3	5.7	7.0	5.0	5.0	6.0	5.7	8
3.5	25	12	300	45.0	28.0	16.3	13.3	4.0	1.3	0	0	0	0	0	0	0	5
3.7	16	9	144	22.2	21.6	20.8	13.9	5.6	6.3	4.9	2.8	2.8	3.5	2.1	2.8	2.8	3
5.4	12	12	144	36.8	14.1	11.1	1.4	2.8	2.8	4.2	1.4	2.1	2.8	1.4	1.4	0	11
5.5	23	12	276	36.6	19.2	9.4	5.8	2.9	0.7	0	0	0	0	0	0	0	12
5.6	16	12	192	47.5	32.0	20.5	18.9	9.8	6.6	3.3	16.4	1.6	1.6	0	0	0	6
5.10	23	12	276	69.9	32.2	18.5	18.5	10.7	13.0	11.6	3.6	0	0	0	0	0	6
5.13	25	12	300	38.7	34.0	28.3	21.3	16.3	10.0	7.3	5.7	7.0	4.7	4.0	2.7	4.0	7
5.15	20	6	120	56.7	41.7	41.7	43.3	34.2	32.5	46.7	31.7	31.7	20.8	7.5	8.3	5.0	2

TABLE 1 presents data from 17 packages in the self-help area which covered the following skills: washing hands (1.1); washing face, neck and ears (1.2); bathing (1.3); washing feet (1.5); washing and drying hair (1.6); cleaning teeth (1.7); washing clothes by hand (1.11); grooming hair (3.1); shaving (males) using an electric razor (3.2); using makeup (3.5); ironing clothes (3.7); making both

FIGURE 2: Sample Learning Curves, based on Mean Percentage

Error Rates

Mean
Percentage
Errors



PT = Pre-Test

hot and cold drinks (5.4, 5.5); making simple snacks (5.6); setting and clearing a table (5.10, 5.13) and changing and making a bed (5.15). Some 189 individuals attending training centres were involved in these package applications. The Table shows the mean percentage errors made on the pretest (where no prior demonstration or teaching was provided) and on each of the 12 teaching trials, for each package in turn. The number of students involved in each individual package, together with the number of those achieving criterion within the 12 trials is also shown.

It may be seen from the Table that, overall, 64% of students achieved criterion level across the 17 packages. An interesting finding is the substantial mean reduction in the error rate between the pretest and the first trial. It may also be seen that, by trial 12, only one package did not succeed in reducing the error rate to 10% or less, 9 packages achieving criterion by the twelfth trial. The package which proved the most difficult was concerned with washing clothes by hand. This package had considerably more steps than the others and involved many steps which required judgment, for example, identifying clothes to be hand washed by their label and checking for colour fastness. Staff commented that this task analysis was very involved, and that perhaps two separate sequences should have been provided.

More detailed study of the learning curve data, using these mean percentages reveals that for 12 of the 17 packages, there is an interesting phenomenon occurring between trials 5 and 8. Although preceded by a gradual reduction in errors, there is a sudden increase in error rate followed immediately by a decrease, usually below the previous sample learning curves based on the mean percentage errors for packages 1.1, 1.7 and 5.6, concerned with washing hands, cleaning teeth, and making simple snacks without cooking. This 'hump' occurring in different packages in which different staff and students were involved is of interest, and further investigation is merited, examining, for example, whether some consolidation is taking place or whether there is a change in response strategy.

In addition to collecting data on skills acquisition, staff completed pre and post measures of the student's knowledge relevant to each individual package. This explored basic reasons why the particular skill was important and also what resources were required in order to carry out the skill. Analysis of resulting data showed that in all packages the increase in mean knowledge was highly significant ($p < 0.001$, on a one tailed sign test).

It is evident from these data and from the individual trainee data that the packages have been used effectively by staff in helping students to achieve competency in the skills areas which they covered. These results are further supported by comments made by staff on individual record forms. A few extracts are presented below:

"... Terry carried out task extremely well considering the holiday break... Task completed very well indeed — a great improvement. Knowledge acquisition has improved also."

- "5/7 John completed the pretest well, with only a few errors, but did so very slowly.
- 19/7 tends to hold shaver rather awkwardly sometimes. Again very slow.
- 7/9 A great improvement noted, completed task a little quicker also.

28/9 Task completed. An additional spin-off from the programme is that it has taught John how to use an electric plug and socket which, as can be seen from the pretest, he couldn't use before the programme. I have also persuaded John's parents to buy him a new electric razor, so hopefully the programme will be carried on at home."

"...feel she has mastered the skill of washing and drying her hair. As you will see it is 20 days since last attempt due to holidays so I am delighted with her."

DISCUSSION

The study has provided further evidence that mentally handicapped adults are able to develop their coping skills through exposure to structured teaching packages. If, however, such materials are to be adopted by practitioners for long term use, it was also essential to demonstrate the acceptability of the packages to the staff using them.

Data gathered by means of a package evaluation questionnaire, completed by staff, provides sound grounds for optimism in this respect. Of the 80 staff participating in the field trials evaluations, 62% were qualified either with the DTMHA or a Teaching Certificate. Responses indicated that these staff did not feel that the format and structure provided within packages was restrictive. Rather, they welcomed them as a framework within which to apply their own expertise. Further, an important finding was the suitability of packages for use by staff without formal teaching qualifications.

Particularly encouraging to the researchers was the widespread acceptance given to the record keeping system which was provided as an integral part of each package. In fact, staff wished to be even more precise in recording response to individual learning steps, wishing for example, to indicate the form of help given to the individual during teaching. It was as a result of such staff insistence that the recording system was later modified to include new instructions to indicate steps which were successfully completed but needed prompts (using the symbol √). Staff also made detailed suggestions on packages which were instrumental in improving these and served to underline the value of consulting field staff. From other responses to the questionnaire, it was also clear that users were enthusiastic to apply further packages and that the packages were filling a perceived gap in the resources available within this field.

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