

VERBAL COMMUNICATION AND THE DEVELOPMENTALLY HANDICAPPED

MARGARET M. McLEOD* and ROY I. BROWN

Department of Educational Psychology, University of Calgary, Canada
and Vocational and Rehabilitation Research Institute, Calgary

Despite a considerable amount of work in recent years concerned with language and the mentally handicapped (Schiefelbusch et al, 1967; Mittler, 1974), there is relatively little information concerning verbal communication between instructors and handicapped persons, yet verbal communication is one of the primary media used to bring about change in the training of the handicapped. In every aspect of a training programme, whether in learning a vocational or social skill, it is necessary for the participants to exchange ideas with staff. Interviews concerning problems associated with work, aspects of home living and leisure time, all involve trainee and trainer. The work of Bernstein (1967) on the use of different language codes, suggests that communication situations are likely to run into problems if the participants use different codes. It seems possible that this communication problem may be increased when handicapped persons are involved since they are generally isolated from the main stream of education and training, and therefore are likely to suffer further restriction of their linguistic skills.

Instructors, teachers, and others working with the handicapped comment on the verbal difficulties experienced by their students, though it is well recognised that most of the mentally handicapped understand much more language (decoding) than they can produce (encoding) (Mittler, 1973). However, it seems fair to conclude that the handicapped appear to misunderstand and confuse verbal information.

Ley and Spelman (1965) carried out a study involving interviews with physically ill persons of normal ability. The authors measured the amount of information retained by patients after they had consulted medical practitioners, and found that their subjects recalled only 62.8% of all that was said. They suggested that a patient could not carry through instructions for care of his ailments because he was unable to remember all the necessary information. Ley (1971) found that by using principles of efficient learning, such as organising, repeating and reducing information, retention could be increased. The language and other learning difficulties of the mentally handicapped perhaps suggest that the problems faced by them in interview situations are more extreme and retention problems even greater than those described by Ley and Spelman. The present study was concerned with examining the extent to which a group of mentally handicapped young adults undergoing vocational training were able to retain information received during routine interviews.

METHOD

Twenty-one subjects were interviewed individually by one of three social workers. At the termination of the interviews which were tape recorded each individual returned to his workshop. A follow-up interview was carried out by the experimenter (M) using a questionnaire.

The initial interview took place in the social worker's office, and since the trainees were assigned to specific workers, all subjects were familiar with the setting and the individual. The interviews were not especially arranged and formed part of the Institute's on-going programme. No effort was made to control the content of the interviews since observation under normal circumstances formed part of the study. At the beginning of the interview each subject was asked if he was concerned

*Presently at Alberta Mental Health Services, Calgary, Alberta.

by tape recording. There were no refusals and taping was carried out by means of a small cassette recorder which was placed on the desk. Interviews included such topics as money management, work and performance, training and social and family relationships. At the end of the interview the subject was given an appointment slip requesting that he return in 25 minutes for a follow-up interview. No explanation was given for this in order to avoid the possibility that individuals would deliberately rehearse the content of the first interview.

The second interview followed a pre-arranged format and was structured to emphasise recall rather than recognition of ideas from the first interview. (Questionnaire, see Appendix.) The experimenter was unfamiliar to most of the subjects, which may have influenced the results. This interview was also taped. At this stage the experimenter was unaware of the content of the initial interview, and carefully followed the questionnaire outline. Questions were repeated if necessary and subjects were encouraged with such phrases as "Can you tell me more?"

Processing of Interviews

The tape recordings were written out verbatim and scored according to the following categories:

1. Idea—a simple unit or concept, usually grouped around a verb, e.g., "I want a job."
2. Repetition of an idea.
3. Redundancy—a phrase that did not contribute to the idea content of the interview, e.g., "I was wondering," "It seems like."
4. Agree and disagree phrases.
5. Request for confirmation, explanation or repetition of a statement.

A separate category was also used for counsellor's or trainee's names.

The final step in scoring was to total separately the counsellor's and trainee's phrases into each of the categories.

The initial and follow-up interviews were scored in a similar manner, although in the second interview remarks such as "May I smoke?" or "I have to hurry to catch my bus" were excluded. It was important in the second interview to note the number of ideas reported which had occurred in the first interview. These were noted under six categories:

1. Accurate recall—the individual produced the idea essentially in the same manner as in the first interview.
2. Slight changes—ideas were accurately recalled, but the subject deleted a small amount of the information or changed wording slightly.
3. Generalisation—a group of ideas expressing the general content of an idea expressed in the first interview, e.g., "You are doing well . . . that's really great" (initial interview), "She's really pleased about me" (second interview).
4. Major distortions—grossly misconstrued idea expressed in the first interview, e.g., "If you fool around your credits will go down" (initial interview), "I'm not getting any more points" (second interview).
5. Minor distortion—faulty recall of an idea expressed in first interview, e.g., "I'm going to get a part-time job" (initial interview), "I asked her if I was ready to get a part-time job yet" (second interview).
6. Additional information, over-inclusion of implicit statements were also recorded. The additional ideas were those that provided background information, further elaboration of material discussed in the interview or other ideas not necessarily related to the initial interview. The over-inclusions were the statements or ideas

said to have been included in the initial interview but were not. The implicit statements were ideas that gave information about something that transpired in the interview but were not discussed, or verbalising of an idea that was implicitly understood between the social worker and subject. All these were recorded separately.

Reliability

In order to obtain objective scores both authors reviewed categories and scores of a pilot sample until there was a high degree of agreement between them. One of us (M) then carried out the total scoring with random checking (B). It is recognised that the technique is not a precise one, though since all initial scoring was carried out by the same experimenter and very few disagreements were found by random and independent checking, it is believed to be sufficiently reliable for the purposes of this experiment.

SUBJECTS

Subjects consisted of clients attending a vocational training programme. Selection of subjects was made by arranging for three social work staff to notify the experimenter when interviews were to occur. The subjects were developmentally handicapped and most of them were of below average intelligence. Details of age and intelligence on the Peabody Picture Vocabulary Test can be seen in Table 1. The work level of the subjects during their day programme was obtained from the *Adaptive Functioning Index* (Marlett, 1971), which was employed on a regular basis by the Institute (see Table 2). The Index is based on a scale of 120 points which are grouped into four levels. Level 1 represents minimal vocational and allied social skills, while level 4 indicates near readiness for job placement.

TABLE 1
Age, Sex and PPVT Raw Scores

SEX	AGE			PPVT SCORES	
	N	Median (years)	Range (in years)	Median	Range
Males	11	18.5	17-35	74	64-124
Females	10	20.5	16-30	69	55-95
Total	21	20.5	16-35	74	55-124

TABLE 2
Subject Work Levels

Level	Number
1	2
2	10
3	8
4	1
Total	21

The three social workers held at least a two-year diploma in Social Work, were permanent members of the staff of the Institute, and aware of the purpose of the study.

RESULTS

A Kruskal-Wallis One-Way Analysis of Variance (Siegal, 1956) was used to test for significant differences in the subject's scores between the three social worker groups. There was no significant difference between Peabody Picture Vocabulary raw scores, the length of the interview time, total number of phrases, or the percentage of ideas recalled by the subjects (see Table 3). Thus the data from the three groups were combined. The Peabody raw scores were used instead of IQ units in order to remove the age compensation effect from the analysis.

Tables 4 and 5 show the number of phrases recorded in the categories outlined above for subjects and social workers. Expressions of original ideas accounted for approximately one-half the phrases expressed by both worker and trainee. There were slightly more repetitions by social workers than trainees. Agree-disagree statements were used more frequently by trainees than social workers. Requests for confirmation, explanation or repetition were reported more than five times more frequently amongst social workers compared with subjects, and the former used subjects' names more frequently.

TABLE 3
Comparison of Three Social Work Groups on Subject and Interview Differences Using Initial Interviews

	Kruskal-Wallis One-Way Analysis H Value with Two Degrees of Freedom
1. P.P.V.T. raw scores	H=-.78 ns
2. Duration of interview	H=-1.16 ns
3. Total number of phrases	H=2.29 ns
4. Percentage of ideas recalled by trainee	H=2.18 ns

TABLE 4
Descriptive Breakdown of Trainees' Total Phrases in Twenty-one Initial Interviews

Category	Number of Phrases	Median	Range	Percentage of Total Phrases
Original Ideas	1702	62.5	11-256	49.1
Repetition of Ideas	420	16.5	2-82	12.1
Redundancies	832	31.0	8-124	24.0
Agree-Disagreement Statements	465	21.9	6-39	13.4
Requests for Confirmation, Explanation, Repetition	34	0.7	0-10	1.0
Names	12		0-4	0.4
Ss Total Phrases	3465	135.7	27-482	100.0

TABLE 5**Descriptive Breakdown of Workers' Total Phrases in Twenty-one Initial Interviews**

Category	Number of Phrases	Median	Range	Percentage of Total Phrases
Original Ideas	2877	113.5	55-375	50.1
Repetition of Ideas	1000	35.6	3-128	17.4
Redundancies	1246	54.2	11-134	21.7
Agree-Disagreement Statements	194	9.0	0-20	3.4
Requests for Confirmation, Repetition, Explanation	341	14.3	2-54	5.9
Names	85	4.0	0-13	1.5
Worker's Total Phrases	5743	230.7	57-674	100.0

TABLE 6**Percentage of Counsellor and Trainee Phrases in Total Phrases**

	Number of Phrases	Percentage of Total Phrases
Counsellor Phrases	5743	62.4
Trainee Phrases	3465	37.6
Total Phrases	9208	100.0

Kurskal-Wallis One-Way Analysis of Variance
 $H=9.98$. Significant at .01 level, 1df

Social workers talked almost twice as much as the subjects, a difference which is significant at $<.01$ level on the Kurskal-Wallis One-Way Analysis of Variance (Table 6). No association was found between the number of ideas expressed by the worker and the subject's level of ability (P.P.V.T.).

The recall of ideas was recorded in terms of percentages so that the interviews which differed in length could be compared on a common scale. The results show that the median amount of subject recall of ideas from the initial to the follow-up interviews was 26%. Although most subjects (17/21) said less than the social worker, a significant number (16) recalled a larger percentage of their own ideas than they recalled of worker's ideas (5). (Binomial Test $p<.02$.) Trainees said more than social workers four out of 21 times. Sixteen of 21 trainees recalled a larger percentage of their own ideas, though this does not reflect the actual number of ideas recalled for seven trainees recalled a greater number of their own ideas and 14 trainees recalled a greater number of the social worker's ideas. This reflects the fact that social workers said very much more than trainees in the majority of interviews. Sixty-one per cent of the ideas recalled were accurate, 37% were recalled with slight changes.

Generalisation occurred in 12.1% of the recalled ideas. Breaking this down into social worker and trainee statements it is found that trainees recalled more of their own ideas accurately (69.8%) than they did the social worker's (52.9%). The trainees slightly changed more of the social worker's ideas (43.1%) than their own ideas (33.3%), and social worker's statements were given as generalisations more frequently (9.7% social worker's ideas, 1.6% trainees' ideas). Minor distortions were very few (2.3%). There were no major distortions.

Percentage of total recall was significantly associated ($p < .01$) with total phrases in the interview, in that the fewer the total phrases the greater the percentage recalled, and conversely the greater the number of total phrases the less the percentage recalled. This was true of total ideas, agree-disagree phrases, number of questions and total redundancies. Percentage recalled was not associated with requests for confirmation, explanation or repetition. A further association was found in terms of the duration of the interviews—the longer the interview the poorer the percentage recalled ($p < .05$). The more said by the social worker the smaller percentage of information recalled by the subjects ($p < .01$). The percentage of material recalled by the trainee was not associated with the amount that he or she talked in the interview. Percentage recalled was not associated with the P.P.V.T. scores, age, sex or work level of the subjects. There was no difference in the amount of recall between those subjects who initiated their own interview as compared with subjects whose interview was initiated by the social worker. All the above results were based on Fisher's Exact Probability Test (see Table 7). Raw data, that is actual ideas recalled rather than percentage recalled was not associated with the length of interview or the total number of ideas within the interview.

TABLE 7
Fisher Exact Probability Test

	Total Phrases in Interview		Length of Interview		Social Worker Phrases	
	<438	(438)	<12.8	12.8	low	high
Percentage of Total Recall of Phrases	<27.6	1 10	<27.6	2 9	<27.6	1 10
	>27.6	10 0	>27.6	8 2	>27.6	10 0
	$p < .01$		$p < .05$		$p < .01$	

DISCUSSION

The results have direct practical application for information exchange with the developmentally handicapped. The longer the interview the smaller the percentage of ideas the trainee appears to recall. The interviews ranged from 5-20 minutes duration with a median of 12 minutes. Percentage of recall does not appear to be related to differences of sex, age, P.P.V.T. raw scores or work level. Subjects also recalled a larger percentage of their own ideas than those of the social worker's even though the latter talked twice as much. On average 26% of the material in the first interview was recalled, 61% of it accurately, the remainder, except for 2% minor distortion, showing slight change. The lack of distortion is surprising in view of the social workers' and teachers' comments, that distortion of ideas is one of the greatest

problems in communicating with the mentally handicapped. Perhaps they are referring to high loss of information. Indeed, the results of the present study are consistent with the work of Clarke (1973), Gold (1973) and others suggesting that the mentally handicapped have few problems of retention provided learning is carried out appropriately in the first instance. This may suggest that the mode of presentation and content of interviews needs to be looked into more carefully.

It seems surprising that verbal ability as measured by Peabody Picture Vocabulary Test, which is a decoding score, does not appear to be related to the percentage of information recalled, though it is significantly associated with the number of ideas recalled (Fisher's Exact Probability Test $p < .02$). Ability at vocational training had no association with amount or percentage of recall. It is also apparent that the social workers did not vary the amount of information they put into an interview in relation to ability level of the individual. Although these results are difficult to interpret, it may be that other parameters counteracted IQ-interviewer effect, for example the social workers may have varied the conceptual level of the material in relation to a subject's verbal ability and this requires further investigation. It is also important to note that none of the subjects was severely mentally handicapped.

The study is of an observational nature and it is difficult to generalise to other interview situations. The size of sample, type of interview and measures of performance did not permit an analysis of possible interaction between different variables. On the other hand the interviews represented part of the normal procedure of counselling and training, and therefore results may indicate some general practical guidelines which warrant further investigation and application. It can be argued that trainees remembered more ideas than they were able to verbally recall in the second interview, but it is also important to note that the recall session was only twenty-five minutes after the initial interview, by which time fairly minimal forgetting would be anticipated.

The results indicate not only a need for short and simple interviews, but perhaps for more frequent interviews repeating the same material to maintain recall. This supports the work by Ley and Spelman (1965).

The fact that the subjects recalled a larger percentage of their own ideas than those of social worker's, though the latter generally did most of the talking, suggests it may be important for interviewers to encourage trainees to talk as much as possible and require them to repeat in their own words what the interviewer has said. This is not an unfamiliar technique to professional workers in the behavioural field, and summary and provoked recall did occur in the interviews, but may not have been sufficient. It is suggested that more attention should be paid to these possibilities.

The work of Bernstein on language codes in different social-economic groups underlines the need for interviewers to use language which is understood by the client. Indeed, the poor recall of social worker ideas compared with the client's own statements, together with the overall high loss of information, may, in part, reflect this problem. Furthermore, if the client is encouraged to do the talking and the interview time is kept brief, one of the major roles of the worker is to provide structure by clearly indicating the form of the interview and providing summaries which can then be verbalised by the client.

Interviewers should not overlook the possibilities of visual aid in interviewing. For example, with the more severely mentally handicapped, Brown and Hughson (1972) noted that subjects had considerable difficulty using verbal information and visual display was a more potent means of communication. Few studies have been carried out on non-linguistic forms of communication amongst the developmentally handicapped and would possibly repay investigation. Social workers asked more

questions than trainees and trainees have therefore more agree-disagree statements than their interviewer. The latter often used the trainees' names to elicit information which perhaps indicates another way in which they tended to control the interview situation. Mittler (1972) has suggested in referring to language training that too many instructors attempt to provoke "yes-no" answers from their pupils, and that language should be encouraged by asking questions in such a manner that elaboration is required from the pupil. In other words, although structure is provided by the interviewer, much of the linguistic context should come from the subject. The interviews which formed the basis of this paper may have been improved by making the trainee aware of the functions of the interview, the interviewer being aware of the language ability of the client and encouraging more participation and control of the interview by the trainee. This type of understanding and anticipation of the client's perception and ability is important and in the present study was underlined by the fact that most trainees felt that the social worker did not say what they expected.

SUMMARY

The present paper has given an account of the context and structure of interviews in a training environment. The results indicate that retention of interview material by the subjects was poor though little distortion of information took place. It is apparent that short interviews (i.e., under 12 minutes) were associated with a more effective level of recall. A relatively high level of verbal participation by the subject compared with the interviewer was associated with increased recall of information. There are problems in making definitive statements from observational studies, and further research involving controlled studies is recommended. However, careful evaluation of interview procedures with the handicapped are warranted and practical changes of length, repetition of context and verbal participation by the subject seem desirable.

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APPENDIX

QUESTIONNAIRE (Second Interview)

(Preceded by a general introduction on purpose by the Experimenter (M))

Unprovoked Questions

1. Statement of problems, and problem variables.
 - a. Why did you go to see C_____?
 - b. I would like you to tell me as much as you can about what you and C_____ talked about today.
 - c. You and C_____ talked about X, Y, Z.
Tell me all you can remember about what **you** told C_____ about X (Y, Z).
 - d. Can you think of anything else **you** told her?
 - e. Tell me all you remember that C_____ said to you about X (Y, Z).
 - f. Did she say anything else about these things?
2. Incidental Comments.
 - a. *We have talked about the main reason you went to see C_____.* Can you tell me anything else you talked about that may not have been mentioned so far, that did not have to do with X, Y, Z?
 - b. Did C_____ ask you any other questions?
 - c. Did she tell you anything else that you have not told me so far?
 - d. Did you tell her anything else that you have not told me so far?

Provoked Questions

3. Solution alternatives and/or choice.
 - a. What did you tell C_____ that you wanted to do about X (Y, Z)?
 - b. What did she say you should do about X (Y, Z)?
 - c. Anything else?
 - d. Did she say she would do anything about X (Y, Z)? What did she say she would do?
 - e. Anything else?
4. Exploration of other variables that might be related.

Now I am going to ask you some questions about some things you may have talked about. If you didn't talk about them, say so. If you did talk about them with C_____ please tell me all you remember about what you said, and what she said.

 - a. What did you talk about your job (at VRRRI or outside VRRRI)?
 - b. What did you talk about your home life (housing)?
 - c. What did you talk about how you get along with people?
 - d. What did you talk about money?
 - e. What did you talk about your health?

Interview Satisfaction

- a. When you were talking to C_____ did you feel she understood what you were saying?
- b. Did you understand what she was saying?
- c. Did she say what you expected her to say?
- d. Were you happy with the interview?
- e. Did your interview help you? In what way?