Teaching sign language to deaf mentally handicapped adults

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A practical account and an experimental evaluation.

(Note: Still in preparation - Figures 5 - 8 and 12 are not yet included.)

Background to the scheme

Botleys Park Hospital is a large hospital for the mentally handicapped. There are approximately 1,100 patients, whose ages cover the entire range.

The hospital has four psychiatrists. Dr. Joan Bicknell is Consultant Psychiatrist and the Head of the hospital. It is due to her encouragement and support that this project has been possible.

Within Botleys Park there are many disciplines providing education, occupation and medical care for the residents. There is a large occupational therapy department which provides work for many of the adults and a school, run by the local education authority, for those children able to attend. There is also a very active psychology department, which has made a valuable contribution to this project, a keen social worker team, a speech therapy department and a large nursing staff.

Amongst the hospital residents there are some who are deaf as well as mentally handicapped. There are usually some patients with this dual handicap in the populations of large hospitals of this kind. Often they live, as at Botleys Park, scattered throughout the hospital amongst the hearing mentally handicapped. If nothing is done to highlight their problem, they will remain isolated, by nature of their handicap, and be unable to participate fully or contribute in the social life of the community in which they live. As a result of this they either become completely withdrawn and institutionalised or present immense behaviour problems created from emotional maladjustment and frustration. Their potential, though limited, is never fully realised.

Some researchers in the United States (Hoffmeister and Farmer, 1972), whom I shall mention later, have summarised the problem of the deaf mentally handicapped person:

"The mentally retarded deaf pose unique problems according to the degree of mental retardation and the severity of the hearing loss. The most basic problem is that of acquiring a system of communication. The mentally retarded deaf learn as do normal deaf individuals, through a visual medium. But the normal deaf individual has the adequate mental faculties to learn from both classroom experience and incidental events within his environment. The mentally retarded deaf individual has so great a handicap in the area of communication that incidental learning is almost non-existent. All learning must be a painfully slow process."

It has only been during the past 10 years that interest has been shown in this problem, both in the United Kingdom and the United States.
In the United Kingdom the first Department of Psychiatry for the Deaf was established in 1968 at Whittingham Hospital, Preston, to deal with the psychological problems of the psychiatrically disturbed deaf. In 1969 and 1971 Mrs. Levett, at Meldreth -- one of the Spastics Society's schools -- taught severely subnormal, cerebral palsied children a vocabulary of gesture and mime as a form of communication. Results showed that it was learned easily and over half the group used it spontaneously, but limitations were found in the extent of the gesture vocabulary. More recently training using Paget-Gorman sign language has been given at Meldreth and its success, measured by Fenn and Rowe (1975) shows that considerable progress has been made.

In the United States, Sutherland and Beckett (1969) showed progress using sign language with low level mentally retarded hearing impaired and adults. In the same year Butler, Griffing and Huffman (1969) used signing with a similar hospital population and made notable progress. In 1972, Hoffmeister and Farmer studied institutionalized hearing impaired non-verbal retardates and taught them sign language. They found after six months' training that patients with no prior knowledge had learned a third of the vocabulary taught and half the group with no prior knowledge learned 100-200 signs. Several spontaneously linked signs and there was a marked improvement in behaviour.

In the English Home Counties, the Royal Association in Aid of the Deaf and Dumb (RADD) carried out some pioneer work in the field of subnormality. The Association's psychiatric hospital visitors began regular visits to hospitals for the mentally handicapped, primarily to establish contact with the deaf amongst these populations. These visits frequently took the form of making social contact over a cup of tea.

From these humble beginnings, their efforts gradually aroused interest in the problem of deafness and subnormality and brought them to the attention of various hospital authorities. Not only was it realised that there was a basic need to provide a means of communication but also that opportunities for socialisation and the provision of increased stimulation to aid learning experience were just as important. Furthermore, these needed to be provided in an atmosphere which was sympathetic and conducive to their problems.

Several large hospitals for the mentally handicapped, in association with RADD have now begun to provide practical help for these patients. Teachers specialising in deafness and subnormality are working in some of the hospital schools, teaching communication through sign language.

The plight of the deaf mentally handicapped adult has also been reviewed. The chatter of deaf patients throughout hospital wards seemed the main problem. Schemes were instigated to group such patients together for several sessions a week and to provide them with training in sign language in a relaxed social setting.

After discussions with our Consultant, RADD was invited to set up a similar scheme for deaf patients at Botleys Park. The scheme was to select a group of patients from the hospital's register of deaf and to bring them together once a week for training in sign language of the deaf. It was hoped that this would provide them with a means of communication and thus alleviate some of their frustration and isolation. The scheme began in June 1972 two psychiatric hospital visitors and myself forming the teaching team. Before describing the training programme - and my own concurrent research -- it is necessary to discuss the type of sign language that was used.
The sign language

The type of sign language used is the British System of Sign Language of the Deaf (see Goodridge 1966), which is used widely by normal born deaf individuals. Unlike the Paget-Gorman sign system, it has not been devised by hearing people to be a translation of the grammatical language that hearing individuals use. The Sign Language of the Deaf has not been devised at all. It has been evolved by the born deaf themselves, through usage over many years.

This system does not adhere to strict grammatical form but links gross language concepts in sequence. Only key words are signed, such as are usually sufficient with the spoken word to convey meaning, e.g.: -

(a) English: put the book on the table
    Signing: put book on table

(b) English: give me the key
    Signing: give me (one sign) key

(c) English: I am happy
    Signing: I happy

(d) English: He is in bed
    Signing: He in bed

(e) English: I am going for a walk
    Signing: I go walk (indicate time e.g. now, tomorrow, etc.)

(f) English: I went for a walk
    Signing: (Yesterday / last week) I walk

The intelligent, born deaf person overcomes the limitations of the system by using finger spelling where signs do not exist for certain words, actions or grammatical form.

Sign Language of the Deaf, by nature of its origin, is a total communication medium. Signs frequently carry more meaning than the equivalent word would do. If one holds the view that the born deaf have language without speech, then in their sign language one is witnessing gross language concepts linked together.

Sign Language of the Deaf is sometimes mistakenly described as mime or pantomime; this is incorrect. There are very definite signs which are standardly used, and there is a rich vocabulary which is continually being augmented. The signs are ideographic and for this reason are simple to learn.

In the autumn of this year the British Deaf Association hopes to produce a complete manual of the signs. This should help anyone wishing to make further reference to this sign system.

The experimental evaluation

The reasons for my research were two-fold.

In all the other RADD schemes, it appeared that the deaf mentally handicapped could learn this form of sign language but the achievements of these patients, as in other research
experiments, were always described in terms of the number of signs learned rather than an
evaluation of whether that form of sign language provided them with a communication
medium through which they could express their own language. It seemed necessary to
discover just how useful this means of communication was and also with what type of
language concepts it provided them. It would be interesting to measure these on a
recognised Language Assessment.

In addition it would also be of interest to establish which predetermined factors in a deaf
mentally handicapped adult - that could be measured objectively - would be important for
the acquisition of sign language.

The research aims are defined in Figure 1.

Research project aims
To establish:
1 If this form of sign language provided deaf SSN adults with
a system of communication such as would be related to
an appropriate adaptation of a standardised language
assessment.
2 Which specific factors -- age, I.Q., social maturity,
socialisation, lip reading, natural gesture and hearing loss --
measured at the initial assessment and before training
commenced, will show a high correlation with any
resultant success in sign language.

Figure 1

Research commenced and ran concurrently with the training programme for a period of
nine months.

Subjects

These were the same 14 individuals for both the research and the training programmes. They
were selected from the hospital's register of the deaf patients. All were considered for the
inclusion in the scheme by a multi-disciplinary team but some were excluded where:

a. their speech and language was adequate for their needs
b. their physical handicap was such that they could not achieve the necessary co-
   ordinated physical movement for signing
c. they were so unresponsive as to be inaccessible to psychological or audiometric
testing.

The age range of the group was from 16 to 68 years. Sex distribution was uneven, being 11
males and 3 females. The summary of subject data is provided in Table 1. Hearing loss
ranged from moderate to severe. (A more detailed account of assessment for hearing loss is
provided later in the text.) I.Q. was measured on the Performance Scale of the Weschler
Adult Intelligence Scales and the range was 35-98, the mean of the group being 54.3. Three
subjects had rudimentary speech but this was not adequate for communication. Several
had additional physical handicap or behaviour problems. Subjects 1, 3 and 7 were the only
ones who had received some limited sign language knowledge prior to hospital admittance.
All the subjects in this group lived scattered throughout the hospital wards.
<table>
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<th>Subject</th>
<th>Age</th>
<th>Sex</th>
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<th>I.Q. (WAIS)</th>
<th>Rudimentary Speech</th>
<th>Additional Handicap</th>
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<td>bc</td>
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<td>None</td>
<td>Choreo athetosis</td>
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</table>

| Mean    | 35  | -   | 54.3         | -          | -                |
| (S.D.)  | (17.5) | -   | (19.5)     | -          | -                |
| Median  | 28  | -   | 48.5         | -          | -                |

* Hearing loss classification is based on Lewis' grading (Lewis,1968)

Table 1. Subject Data

A summary of the sign language vocabulary used is provided in Figure 2. For descriptive purposes the sign vocabulary has been detailed in grammatical terms.

**Sign language vocabulary used**

British System Of Sign Language of the Deaf

145 Signs selected for this project, comprising:

- 77 Nouns
- 20 Verbs
- 10 Adverbs
- 22 Adjectives
- 5 Prepositions
- 4 Interrogative Pronouns
- 2 Personal Pronouns
- 5 Social Responses

Total Number: 145. Of these, 110 taught, 35 not taught (used for control)

Vocabulary was not taught to any specific timescale.

Initially approximately 20 signs were introduced.

Gradually over period of 4 to 5 months the remainder of 110 signs were taught.

Figure 2

The 145 signs used were selected by the teaching teams, based on their experience of the language of severely subnormal institutionalised adults and by reference to the work of Mein and O’Connor (1960) and Mein (1961). For purposes of the research, 35 of the 145 signs selected were not taught, so as to act as a control for the experiment. These were chosen randomly and comprised, 20 nouns, 6 verbs, 3 adverbs, 5 adjectives, 1 preposition. Signs were always presented accompanied by speech.

The teaching methods used are presented in summary form in Figure 3.

Teaching

Frequency:- Once weekly for 2 hour period

Subjects:- Taught initially in a large group then sub-divided as sign knowledge was acquired. Grouping very flexible. Socialisation aspect emphasised.

Teachers:- Two psychiatric hospital visitors and one speech therapist. Teachers interchanged freely between groups.

Technique: Flash cards used to teach all language concepts that could be depicted pictorially. Remainder taught by example and usage. Once signs were acquired they were generalised to real objects and actual activities. Other remedial apparatus then introduced.

Figure 3

The group is known in the hospital as "the conversation group for the deaf". The emphasis has always been on the sociable aspect of communication so the atmosphere is very relaxed and informal. The flash cards or picture cards were made by the teaching team and signs that could be illustrated in this manner were taught this way. The other signs were taught by demonstration. As quickly as possible signs were related to real objects and activities, to generalise the concepts taught. Hospital events were utilised in training, e.g. making tea, walks in the hospital grounds, visits to the wards, inter-hospital sports day for deaf patients.
Research project aim 1

In order to establish the first research project aim, the following assessments, detailed in Figure 4 were carried out:

Assessments for research project aim 1

These comprised tests assessing the specific form of sign language taught and were carried out before and after training. The tests were:

(A) "Ad hoc" Sign Language vocabulary Test -- for comprehension and expression.

(B) An adaptation of the Reynell Developmental Language Scales -- various sub-tests of both verbal comprehension and expressive language were administered using sign language instead of speech.

Figure 4

(A) "Ad hoc" Sign Language vocabulary Test

This comprised a summary of the 145 selected signs. It was necessary to test for each sign and not carry out a sample test because the results were also required as a record of teaching achievement upon which subsequent training was to be designed. Every patient's knowledge of all the signs was tested on the two dimensions of comprehension and expression. This was accomplished as follows.

The 145 signs were divided randomly into four groups and patients were assessed over four separate days with a different group of signs. This was necessary to eliminate failure through subject fatigue which would affect their limited performance abilities. Picture cards, different from those used in training, were used for assessment material, together with other standard remedial apparatus for those signs that could not be pictorially illustrated. The results are presented in Figures 5 and 6.

After a nine month period of training a large gain in comprehension can clearly been seen in Figure 5. The gain magnitude might have been greater but for a ceiling effect. This was probably due to the limitation in the number of signs taught. The group mean before training was 35 and after training was 100. It is interesting to note the progress of subjects 4, 6, 8, 9, and 10 referring back to the subject data (Table 1) where their I.Q. range is described as 33-44. Further reference will be made to this later.

The results for expression are given in Figure 6. Here again, there is another large gain, not quite so high as in the comprehension side, and there is no ceiling effect. The group mean before training was 16 and after training was 86.

To summarise, over half the group members learned 90 per cent of signs taught and even the lowest scores gained 60 per cent. All comprehension scores were in advance of expression, which follows the normal pattern of language acquisition and during training, plateaux in learning were detected which suggest that learning of group members followed the normal learning pattern.

The results also confirmed that success was due to training as none of the control list of signs had been learned spontaneously. Finally, the sign language vocabulary test results show a high positive correlation with the adapted form of the Reynell Developmental Language
(B) Adaptation of the Reynell Developmental Language Scale (R.D.L.S.)

The Reynell Developmental Language Scale was adapted for assessment to act as an independent measure of strength of the acquisition of sign language as a means of communication. What was needed was some means of measuring if these subjects could express and comprehend concepts of language in the symbolic form of gesture instead of speech.

As the R.D.L.S is designed to assess language concepts according to developmental language levels, it was considered useful to attempt to convert it into a sign language. Dr. Reynell has confirmed the feasibility of modifying her language scale for deaf children (private communication with author).

The vocabulary used in the R.D.L.S. corresponded to that taught in the sign language teaching project. The advantages of using these tests were that the test material used and its application was completely unfamiliar to the subjects and that the test and re-test time in this study was nine months, which is well over the recommended six months test / re-test period.

The results gained are presented in Figures 7 and 8.

Not all sections of the Scale were appropriate. Verbal Comprehension (Section 1) and Expressive Language (language structure) were omitted. Also, it was impractical to use the conversion tables for converting the raw scores to language age because of the test being administered in this adapted form. The results are quoted as raw scores which were then correlated with the results of the "ad hoc" vocabulary tests. The results show the same success as was shown on the comprehension and expression on the Sign Language vocabulary Test, but not to the same extent of producing any ceiling effect. Figure 7 shows that the group mean on the Verbal Comprehension Scale was 8 before training and 35 after training. Figure 8 shows that the group mean was 5 before training and 22 after training.

It is worth noting that although the group means on the Reynell Developmental Language Scale are lower than those on the "ad hoc" vocabulary, they relate the same gain. Both the "ad hoc" test and the R.D.L.S. group means show approximately a 400 per cent gain after training. By analysing the individual scores for each question on both the Verbal Comprehension and Expressive Language scales of the adapted R.D.L.S., it was possible to relate the subjects' results more closely to the complexity of language they had achieved (see Figure 9).

Analysis of Adapted Reynell Developmental Language Scale

VERBAL COMPREHENSION
Sections (Failure - percent)
2 -- (0.009)
3 -- (13.4)
4 -- (23.2)
5 -- (9.5)
6 -- (35.7)
7 -- (54.3)
8 -- (48.6)
EXPRESSIVE LANGUAGE
Sections (Failure per cent)
VOCABULARY-OBJECTS -- (0.0)
VOCABULARY-PICTURES -- (14.3)
VOCABULARY-WORDS -- (56.1)
CONTENT -- (69)

Figure 9

On the Verbal comprehension scale the results showed that over 50 per cent of the group comprehended up to and including Section 6. This meant that they had comprehended language concepts from simple object recognition to the assimilation and relationship of two and three concepts in a simple and more abstract form. Also just under 50 per cent accomplished Section 7 and surprisingly enough over 50 per cent managed Section 8. This shows that almost 50 per cent of the group could cope with complex language concepts. Also there was a considerable test of memory span here due to lengthier instructions.

No one could cope with Section 9; length of the instruction seemed to be the main problem. Training in comprehending this length of signed information had not been given prior to the test and possibly, practice will show improvement at subsequent assessments. It is interesting to note that the difficulty subjects had with the various sections did not develop progressively. This may have had some bearing on specific difficulties connected with signing the various sections, or just indicate deaf mentally handicapped people's problem area.

On the Expressive Language scale it is fairly clear that the first two items on the vocabulary presented little problem for the group, but the last part-words-shows that over 50 per cent had difficulty. Here, the subjects had to cope with pure abstract language concepts. Similarly the content section was difficult, though in many respects it made less abstract demands on them, because of the visual material. As much as anything, the technique of picture description seemed as foreign to them as the inability to accomplish the task, but this, it must be stressed, was purely an observation. Further training may alter these results.

Research project aim 2

The following assessments shown in Figure 10, were carried out prior to the training programme commencing:

The Weschler Adult Intelligence Scale (W.A.I.S.)

Performance scales only were administered by the psychology department of the hospital. All subjects were tested on the following aspects digit symbol, picture completion, block design, picture arrangement and object assembly.

The Vineland Social Maturity Scale

Assessment was compiled on each subject by the psychology department in co-operation with the hospital nursing staff. The results provide a measure of social maturity as a social age score.

The Vineland is an extremely useful test and is widely used in the field of mental handicap. It assesses systematically the early stages of development and provides a measure of these
social skills in relation to Chronological Age. However, this measurement is over a very wide field of some 117 social skills, some of which may have no relevance to the attainment of gesture. Furthermore the scales are standardised on a normal population and "do not permit to judge whether a mentally handicapped person is socially retarded compared with other mentally retarded people" (Gunzburg, 1968).

The need for another measure of socialisation in addition to the Vineland Social Maturity Scale was, therefore, considered important.

Socialisation Assessment

This is an "ad hoc" test. It was compiled from the socialisation sections of the three Gunzburg Progressive Assessment Charts (PPAC, PAC1, PAC2). Questions were selected which were considered most appropriate to hearing impaired mentally handicapped individuals. The assessment was administered by hospital ward nursing staff. It comprises 44 questions and marking is a simple point score, with each correct answer scoring one point.

Assessments for research project aim 2

Initial Factor
Type of Assessment

Intelligence Quotient
Wechsler Adult Intelligence Scale - Performance Scale Only

Social Maturity
Vineland Social Maturity Scale Assessment

Socialisation Ability
"Ad hoc" Test compiled from socialisation sections of the Gunzburg Progressive Assessment Charts PPAC, PAC1, PAC2

Natural Gesture Ability
"Ad Hoc" Test - 3 point scale to rank subjective assessment by teaching team

Lip Reading Ability
"Ad Hoc" Test - 3 point scale to rank subjective assessment by teaching team

Hearing Assessment
Based on most recent audiograms and grouped according to Lewis' Categories in relation to severity of hearing loss

Age
Hospital Records

Figure 10

Lip reading and natural gesture ability

It was noticed during selection and assessment that several subjects were lip reading and attempting to communicate using natural gesture, which was to be expected as "the deaf use gesture more readily than the hearing person" (Ballantyne, 1960). Some measure of this ability prior to training was thought to be useful.
Lip reading ability assessment

The measure was subjective - the teaching team observed subjects over assessment period and conferred with nursing staff. Subjects were graded as follows:-

- Uses lip reading often -- (Grade = 2)
- Uses lip reading sometimes -- (Grade = 1)
- Uses lip reading never -- (Grade = 0)

Natural gesture ability assessment

Again a subjective assessment was made based on the teaching team's observations and those of the nursing staff. The same grading was used as for lip reading:-

- Uses gesture often -- (Grade = 2)
- Uses gesture sometimes -- (Grade =1)
- Uses gesture never -- (Grade = 0)

It must be stressed that gesture here refers to natural gesture. At this stage, subjects' use of the conventional sign language to be taught was not being measured, although many of the natural gestures used may have closely resembled them.

Hearing Assessment

The hearing assessment of each subject was based on the most recent audiogram. The results of the five speech frequencies were considered to be in two groupings, a lower frequency group comprising 250, 500 and 1,000 hertz and a higher frequency group comprising 1,000, 2,000 and 4,00 hertz. A mean for each frequency group was derived and then letter coded according to Lewis' Categories (Lewis, 1968), giving a two-letter code describing each subject's hearing.

Correlation of initial assessment factors with success in signing

The results of these initial assessments were then correlated with the results gained after training on the "ad hoc" Sign Language vocabulary Test and the adapted Reynell Developmental Language Scale to discover which, if any, would be most significant in the acquisition of sign language. The results are shown in Figures 11 and 12.

Ranking of initial assessment factors against success in sign language

A. COMPREHENSION

Ranking -- Factor -- (Significance)
1. -- Socialisation -- (.004)
2. -- Lip Reading -- (.030)
3. -- Natural Gesture -- (.040)
4. -- Age -- (.059)
5. -- Vineland -- (.069)
6. -- Hearing -- (.128)
The significance level was set at the .01 level for this research project. From Figures 11 and 12 it can be seen that socialisation ability measured by the "ad hoc" test devised from the Gunzburg PAC charts, comes out as the most strongly significant factor, followed by lip reading and then natural gesture ability. I.Q. ability as measured on the W.A.I.S, hearing loss, social maturity as measured on the Vineland, and age would seem to have little influence.

1. Hearing correlated with no other factors

It gave negative correlations with everything else, thus showing that it had practically no influence on the acquisition of signing. This suggests that though there were variations within the group, they were not sufficient to facilitate or impede the learning process or other significant factors.

2. Natural gesture correlated with the initial ad hoc vocabulary Comprehension and Expression Tests and the after training ad hoc vocabulary Comprehension and Expression Tests

It was expected that correlations with socialisation and age would have been significant but this was not found to be the case. This can only be accounted for by the broad classification of natural gesture which was used in this project.

3. Lip Reading

This showed a strong positive correlation with the "ad hoc" vocabulary Tests for both before and after training for Comprehension and Expression as one would expect. It also showed a strong positive correlation with socialisation ability and age. There was no correlation between lip reading and I.Q. This again may be due to the broad classification used from the sparse literature available on this subject; the impression is that lip reading is a skill not related to intelligence (Ballantyne, 1960).

4. WAIS I.Q.

Showed no significant correlation with any of the other factors. Sunderland and Beckett (1969) found for the most part that individuals' progress correlated with their I.Q. score. However, some members in their study with the lowest I.Q. were able to converse in signing. This indicated that I.Q. scores may be inadequate for classification purposes. On the other hand these patients on initial assessment, without sign language knowledge, may be inaccessible. Also their motivation could be extremely low and may present a "poor response set". Investigations on sub-tests of W.A.I.S. with particular reference to tests, e.g. block design,
may indicate an underestimate of intelligence. It would be interesting to remeasure I.Q. after training to see if there had been any effect from the sign language learned. Possibly, I.Q. may be more relevant later on in learning signing when more complex language forms are taught.

5. Socialisation

This showed a high positive correlation with all factors except I.Q., natural gesture and hearing loss. This suggests that the “ad hoc” test based on Gunzburg’s PAC Charts is the better predictor of success in gesture. As I.Q. seems in this case to show a low predictive value, it may be better to use complete Gunzburg PAC Charts as an assessment tool for future studies of this type of population. It would also suggest that the measurement of social competence is more appropriate than measurement of intellectual functioning for this type of learning. Gunzburg has stressed “the need to measure how advanced or retarded the mentally handicapped person is compared with others of similar low intellectual standing, as opposed to showing subnormal functioning in relation to the normal population of the same age”.

6. The Vineland

This showed no correlation with any other factor except with the Reynell Developmental Language Scale-Comprehension (after training). This is difficult to explain and may be due to a peculiarity of the data. It confirms the original doubts that the test was too general an assessment of social maturity for this study. Age was just significant with socialisation and strongly significant with lip reading ability. The correlation with lip reading may be due to age giving greater lip reading experience.

7. Age

This was not significant with any other factor.

Progress since research programme

This research ended in the autumn of 1973. Since then further progress has been made:

A. The Makaton Vocabulary was devised, following the research, by the teaching team Cornforth, Johnston and Walker, 1974. From our experience it seemed that the vocabulary of signs taught could be further improved by restructuring and increasing it.

The Makaton comprises 200 signs, including the original 145. They are all signs from the British Sign Language of the Deaf, which have been structured into stages according to the usefulness of the concepts. The aim is to ensure that if limited learning ability and poor retention prevent an individual from progressing beyond the initial stages, then he or she will still have acquired a useful, though limited, communicative language.

The Makaton Vocabulary is now being used in all new RADD projects with the mentally handicapped and with a group of non-communicating adults at this hospital.

B. The need to extend opportunities for communication by sign language throughout the hospital for these patients has been recognised. The ultimate aim would be to establish a
ward with staff skilled in signing, where they could live together, yet participate in the other hospital activities. Unfortunately, so far this has not been possible.

Classes in signing have been organised for other hospital staff with an excellent response by psychologists, occupational therapists and school teachers. This now means that children in the conversation group for the deaf are able to use signing at school; so are the adults whilst attending occupational therapy.

Recently the occupational therapy department started a special daily activity group for deaf patients to provide an extra period in the day for extension of their signing experience.

Very little success in using signing in the ward situation has been achieved with the nursing staff. Problems of staff shortages and shift work have made it difficult for the nursing staff to attend the Sign Language Instruction Classes. Endeavours are being made to overcome this and it is hoped in due course to have a member of the nursing staff allocated to the conversation group for the deaf to assist in teaching and be responsible for extending knowledge to other nurses involved.

Over the past twelve months the two psychiatric hospital visitors - Mr. Cornforth and Miss Johnston, have had to leave the teaching team at Botleys Park. The conversation group for the deaf, however, has continued to gain strength. I am now assisted by the occupational therapist, who has responsibility for the activities for the deaf in the occupational therapy department and, as previously mentioned, it is hoped to have a representative of the nursing staff to make up the team. The School teachers assist whenever time allows.

The number of patients in the group has increased to twenty by including two deaf teenagers and four non-communicating adults.

C. As more experience is gained further improvements in teaching methods are realised. Recently, with the introduction of new staff on the teaching team, it seemed a good opportunity to restructure the teaching methods, to make it easier to share knowledge throughout the hospital.

Therefore, I am designing language programmes to cover most of the concepts we endeavour to teach in signing. These give details, stage by stage, of the teaching method and recommend which remedial apparatus and equipment to use to illustrate the language concept. To date it is working very well. It provides confidence for new staff and a detailed record on which to plan future training and against which to check achievement.

Conclusions

As far as Botleys Park is concerned the introduction of sign language of the deaf for deaf mentally handicapped patients has proved a great success. The patients are capable of learning it easily and using it as a complete medium for communication. So far, no limitations have been found.

The group of patients is well integrated; there has been a noticeable improvement in members’ individual behaviour and a reduction in problem behaviour. There is also a marked increase in sociability. Group members sign well and use signing to communicate amongst themselves. Another interesting point to note is that the group as a whole has become much more vocal and several members are attempting to imitate speech.
The scheme has been very interesting and rewarding to implement and its use is recommended with similar hospital populations.

**Bibliography**


