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Compiled and Written by Nicola Grove. MSc, LCST
Edited by Margaret Walker, MSc, LCST

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SUPPLEMENT - Volume 1, Issue 1
NONSPEECH SYSTEMS OF COMMUNICATION

MAKATON

Toogood, R. (1980)
Makaton Vocabulary
Parents Voice, September 1980

Summary

A descriptive account of the use of Makaton at Claypenny Hospital, and in the community, and the development of the Makaton Project organisation.

BRITISH SIGN LANGUAGE

Kyle, J. & Woll, B. (1981)
British Sign Language
Special Education: Forward Trends, 8, 1, 19-23, 1981

Summary

This is a useful, simple article which discusses some aspects of British Sign Language, its background, and some of the myths surrounding its use. Well worth reading for general information to use in lectures, parent groups, etc.

Critical Points

Unfortunately in their final section, the authors display misunderstandings about Makaton and its use with ESN populations (see Walker, 1981, below for a letter which clarifies the position). We would not, however, quarrel with their conclusion that increased knowledge of British Sign Language as it is used fluently by deaf signers is important at whatever level the signs are taught.

Walker, M. (1981)
Letters to the Editor - British Sign Language and Makaton Special Education: Forward Trends, 8, 2, 33, 1981

Summary

This explains that the Makaton Vocabulary is a complete language programme and describes the manner in which British Sign Language is used with it.

GENERAL ARTICLE

Kiernan, C.C.(1980)
The hands say it all
Nursing Mirror, September, 25, 1980

Summary

Summarises systems of nonvocal communication used in the U.K., and their relative strengths and weaknesses. The need is stressed for a total signing environment, and for more experimentation with the combined use of sign and symbol programmes.

Critical Points

As in some other publications, the term British Sign Language is used to refer to programmes using signed speech in special schools (apparently Makaton). This is misleading, since as noted in RIS 1, 1, 1-7, British Sign Language and Makaton, or signed speech, differ crucially in a number of aspects.

SUPPLEMENT - Volume 1, Issue 2
REVIEWS,SURVEYS AND BIBLIOGRAPHICS

REVIEWS

Bonvillian, J.D. Nelson, K.E. & Rhyne, J.M.(1981)
Sign language and autism
J. Autism & Dev. Disorders, 11, 1, 125-137, 1981

See: Supplement to Issue 4 - Autism and Nonspeech Systems

* Todd, P. (1980)
Interpreting "The Signs of Language" (review article)
Sign Language Studies, 28, 217-238, 1980

Summary

A detailed review, chapter by chapter, of Klima & Bellugi's book, which is a useful summary of the real thing if you cannot get hold of it! - and a guide as to where in the text to find the information you might want. Pertinent criticisms are made, particularly of the authors' evaluation of the role iconicity plays in use and interpretation of signs.

° Poulton, K.T. & Algozzine, B. (1980)

Manual communication and mental retardation: a review of research and implications
American J. Ment.Defic., 85, 2, 142-152, 1980

Summary

Critical review of research on manual communication with mentally handicapped subjects from 1969-1979. A useful summary table of 19 studies is included.

The review functions mainly to highlight the shortcomings of this body of research. The literature supports the notions that retarded subjects are capable of attaining comprehension and to a lesser extent production, of a limited number of manual signs, and that signing can facilitate word-object associations. However, there is no documented evidence that retarded persons attain a functional communication system, based on manual signs. Nor is there any indication from the studies of criteria for initiation of sign training, which "appeared to occur indiscriminately".

Clinical Applications

A useful paper to read in conjunction with Kiernan (1977) (see RIS 1, 2, 1,) if you are planning a research project since it indicates some of the areas commonly omitted in research design.

In particular, it highlights the need for good documentation of the functional use of signs/symbols once they have been learned. There are a number of anecdotal reports of clients using their signs to communicate effectively, but a lack of detailed factual records of the process.

BIBLIOGRAPHIES

* Federlin, T. (1979)

A comprehensive bibliography on American Sign Language: A resource manual
New York, 1979 (The Author)

° Lloyd, L.L. (1980)

Unaided nonspeech communication for severely handicapped individuals an extensive
bibliography
E.T.M.R., 15, 1, 15-34, 1980

* Silverman, F.H. (1980)

Appendix A: Comprehensive bibliography relevant to nonspeech communication modes:
Gestural Modes; Gestural-Assisted Modes; Neuro-Assisted Modes
Communication for the Speechless, Prentice Hall, 223-249 1980

* Wilbur, R. B. (1979)

Appendix: Manual communication for the retarded and others with severe
communication impairment: a resource list by M. Fristoe & L.L. Lloyd (reprinted from
Mental Retardation, October, 1977, 18-21 by permission) 271-276, 1979

References (Wilbur's own references) 277-298

(these are more to do with linguistics than the applied use of nonverbal communication)

SUPPLEMENT - Volume 1 Issue 3

MENTAL HANDICAP AND NONSPEECH SYSTEMS

* Duncan, J.L. & Silverman, F.H. (1977)

Impacts of learning American Indian Sign (Amerind) on mentally retarded children: a preliminary report

Perceptual & Motor Skills, 44, 1138, 1977

Summary

Brief project report summarising the effects of a ten week total communication programme using Amerind on 32 moderately retarded children. Daily records were kept of verbal and gestural communication. 27/32 used the signs spontaneously for communication; number of signs learned ranged from 15-200; Fifteen were reported to have increased their attempts at speech communication - no negative effects on speech were reported. Thirteen made noticeable changes in overall behaviour such as increased willingness to participate in language activities, and reduced frustration behaviour (no further details given).

Critical Points

The authors conclude that their results to date suggest that Amerind may be preferable to American Sign Language because of its concreteness, and high intelligibility to trained observers. However, it is unfortunate that they do not cite directly any evidence in support of this conclusion - e.g. comparative data with American Sign Language (see Kirschner et al (1979), This Issue, for Amerind/American Sign Language comparison).

° Griffith, P.L. & Robinson, J.H. (1980)

Influence of iconicity and phonological similarity on sign learning by mentally retarded children

Am. J. Ment. Defic., 85, 3, 291-298, 1980

Summary

Investigation of the effects that iconicity and phonemic similarity have on the learning of sign-word pairs by verbal moderately and severely retarded children.

Definitions

"Linguistic iconicity refers to a structural, physical and universal characteristic that would make a sign evident even to a naive observer."

"Psycholinguistic iconicity implies any clue or association learners might make between a sign and its English referent. This clue need not be in the form of a visual similarity, and may be time-, culture- and experience-bound." If this is the case, do retarded learners perceive the same associations between sign and referent as do their teachers?

Cheremic Similarity

The term chereme is used to describe phonological variables in the formation of a sign - handshape, place of articulation, movement and orientation. It was coined by William Stokoe.

“Phonological similarity can be defined as the degree to which the signs share formational aspects of handshape, place of articulation on the body, movement and direction of the palm.”

It was hypothesised that phonological similarity would interfere with learning, and iconicity would enhance it.

Subjects were 36 children, IQ range 30-55, verbal ages (PPVT) 2.5 - 7.51 years.

The task was to learn to respond with the English words for the ASL signs with which they were presented (in a paired associate recall format, which alternated learning and test trials). The children’s knowledge of the English nouns was established in advance. The task was thus receptive in nature - the children were shown the sign and had to say the word; they were not required to produce the sign.

Results were as expected. The more iconic the sign, the easier it was for the children to learn the association (they were indeed capable of perceiving and using iconic clues). When the signs were formationally similar, the task was more difficult.

The authors conclude that iconicity and similarity should be taken into account when selecting signs for retarded learners. Dissimilar signs should be easier to learn than similar signs - however, the authors caution that the use of dissimilar pairs of signs in early learning could interfere with the ability to perceive fine distinctions between signs which look similar.

The authors advocate further research, particularly into the acquisition of an expressive sign vocabulary.

Critical Points

There was no prior screening for use/understanding of natural gesture, which might have interacted with the iconicity of the signs to facilitate learning.

Clinical Applications

This is one of the first studies to directly explore the effects of iconicity, which has long been assumed to facilitate sign learning. We are, however, a long way from understanding how iconicity interacts with other variables -for example, many clients seem to learn the Makaton sign for biscuit which is noniconic, quite readily!

If you are interested in this question, follow up the references on iconicity listed at the end of the paper. See also the paper by Kohl, which explores iconicity as a factor in the expressive acquisition of signs - a different research design, in a different mode, which produced very different results (see This Issue). See also discussion in RIS 1, 4, 22-24, on the role of iconicity in learning.

There are ongoing projects in the States and in England to explore the role of phonological similarity.

It is interesting that the work of Dermot Bowler as described by Kiernan (1980) This Issue seems to indicate that the more common the hand posture, the easier it is to

imitate learn and retain (see also Hughes (1979) This Issue, for a similar finding with Blissymbols).

Detailed record keeping could contribute to our understanding of these two complex issues.

* Hughes, M.J. (1979)

Sequencing of visual and auditory stimuli in teaching words and Blissymbols to the mentally retarded

Australian J. Mental Retardation, 5, 298-302, 1979

Summary

This paper explores:

1. the relative ease of learning with Blissymbols and words, and
2. the effect of presentation order of stimuli: with the spoken word either preceding, or simultaneous with the visual display of word or symbol.

Subjects were four Trainable Mentally Retarded (TMR) children (IQ 40-61) and four Profoundly Mentally Retarded (PMR) (IQ not scored - 30). Learning trials took place every day for two weeks.

Results

Both groups found Blissymbols easier to learn than written words, although the TMR subjects were capable of learning words. It is suggested that for this group Blissymbols be used to facilitate reading skills, where for the more severely retarded, they could be used to establish functional communication.

The difference between the two presentations (delayed or not delayed aural stimulus) was not statistically significant, but trends were in favour of the delayed form of presentation, which allows the subject time to visually process the stimulus.

With regard to the symbols used, it appeared that discriminability of items which were being presented together was of more importance than the relative complexity of a symbol. If a group of formally simple, similar symbols were presented together, they were more difficult to learn than more complex symbols which differed in form (see Griffith & Robinson (1980), This Issue, for a similar finding with signs).

Critical Points

There were a number of problems arising with this study, which the author discusses. It is difficult to know how valid were the rankings of concepts, from simple to supposedly more abstract, and what effect familiarity with the concept had on learning.

Clinical Applications

The conclusions are based on too small a sample to generalise directly to clinical work, but there are ideas here which could be tried out in a research project, or as hypotheses for different approaches with clients. The question of whether similarity of form interferes with, or facilitates learning, is interesting and should be explored further (see Kiernan (1980) This Issue) who found that for signs, the more con-non the form, the easier it was to learn. Much would obviously depend on the method of presentation.

* Jones, K.R. (1979)

A rebus system of nonfade visual language
Child: Care, Health & Development, 5, 1-7, 1979

Summary

An account of a rebus programme used to teach language skills to autistic and severely mentally handicapped children, using a format loosely based on Premack's work - building up a simple sentence, and then substituting elements appropriately (see RIS 1, 4, 20-21 for a similar kind of programme).

Unfortunately, there are no quantitative data supplied as evidence for the success of the programme, although apparently a number of children have moved through it successfully. It seems to have facilitated vocalisation, with both mute and vocal children - the latter began to verbalise at about the same level of vocabulary as the rebuses they were using. The programme is designed to teach visual language as a first language, as a language accelerator, and as the first steps towards reading.

The manual is obtainable from Mr. Jones at Bristol Polytechnic (address in the article).

Critical Points

1. Although the programme has been designed with communication in mind, it is not clear how, if at all, the children used the rebuses outside the teaching situations. It is worth remembering that the Premack system, as it was adapted in the NONSLIP programme teaches "language strategies" which are specifically syntactic, rather than functional communication; and learning how to order elements is not at all the same as learning how to communicate. These children were certainly being taught how to use the rebuses to fulfil requests - but did they actually generalise?

Clinical Applications

What are the criteria for using rebuses rather than signs, or rebuses rather than Blissymbols as the "first language"? The fundamental skills for the system are described as visual attention, visually directed reaching, and prehensility. No receptive language skill is said to be necessary, nor the manual dexterity involved in signing. Interestingly, it was the experience of the teachers that pre-training programmes were not always necessary, as the fundamental skills emerged through teaching.

There is no data on subject selection; and whilst it seems safe to assume that all the children on the rebus programme were incapable of using signs or more advanced symbol communication, there is unfortunately no discussion of how the rebuses compare functionally to other nonverbal communication systems, and whether the children would move on to a more efficient system once a certain point had been reached.

* Kiernan, C. (1981)

A strategy for research on the use of nonvocal systems of communication
J. Autism and Developmental Disorders, 11, 1, 139-151, 1981

Summary

This paper outlines a strategy for research on the application of nonverbal systems with severely and profoundly mentally handicapped children, and describes some of the projects undertaken in association with the Thomas Coram Research Unit to investigate certain areas of concern revealed by their 1978-1980 survey (see RIS 1, 2, 2-3).

1. The need for development of appropriate assessment and monitoring procedures
Thomas Coram Research Unit are developing the Pre-Verbal Communication Schedule (PVC), which is described here. The rationale underlying the scheme is that a student showing one or more areas of intentional communication has an understanding of social means-end relationships. The scale concentrates on expressive abilities: the need to measure comprehension skills is acknowledged, and it is suggested that this is done in an ongoing fashion as test taking skills are taught to the student.

Recording Methods

It is suggested that a pragmatic analysis of functional communication is most useful for the students at a single element level of utterance. This can be combined with a semantic/syntactic framework.

2. The need to develop specific teaching procedures to suit particular needs
The Heuristic Programme, at TCRU, is designed as a diagnostic teaching procedure to assess whether children should be placed on a sign, symbol, or combination programme. A schedule has also been developed to establish ability to imitate novel hand postures. (For critical points relating to use of pure imitation assessment see RIS 1, 3, 6).

Methods of combining sign and speech

The work of Reid on sign and word learning by mentally handicapped children is described here. Four conditions are used in her study - WORDS alone, WORD + SIGN (simultaneous) WORD preceding SIGN, SIGN embedded in a full spoken simple sentence. No definitive results emerged from this study, but from her other work it is clear that there is a facilitative carryover effect from sign learning to speech, involving both motivational and cognitive factors.

3. What features of the system facilitate learning?
The work of Kiernan & Bowler is summarised here. One hand and two hand SAME signs are easier to imitate, learn and retain than two hand DIFFERENT signs. With regard to hand posture, in general the more commonly occurring the posture, the easier it was to learn. It is suggested that such studies may reveal ways in which signs could be systematically modified to facilitate acquisition, and the information could be used to plan teaching of sign articulation.
4. What methods are used by students to process signs or symbols?
There seems to be wide individual variation in learning. Studies are underway at TCRU to explore the short term processing of signs and words - a previous study having indicated that manual signs are encoded separately from words in short term memory.

Clinical Applications

This paper suggests a number of fruitful areas for clinical experimentation and research. In particular, the PVC is well worth having a look at, as it is extremely comprehensive, the references list several papers available from TCRU.

° Kirschner, A., Algozzine, B. & Abbot, T.B (1979)

Manual communication systems: a comparison and its implications
E.T.M.R., 14, 5-10, 1979

Summary

A theoretical, and experimental comparison of Amerind and American Sign Language. It was hypothesised that a set of signs would be equally easy to learn in either form. The subjects were 30 college students, who learned 20 signs from each vocabulary. Retention was tested immediately after training, and two weeks later. The Amerind signs, which were more transparent than the ASL equivalents were easier overall to learn and retain.

The authors conclude that Amerind is the most suitable system for teaching to mentally retarded children, since it will be the easiest to learn, and to understand, for the people with whom they interact, and since the signs are themselves more “transparent and readily teachable”.

Critical Points

1. We as yet know very little about the role played by transparency, or iconicity, in learning of signs, and comparison of signs in static presentation may be too crude a measure. For example, there are processes in ASL, as in BSL, which probably increase the intelligibility of a sign in context such as directionality, facial expression, movement - and these processes may be quite different in Amerind. Signs will become more or less readily intelligible depending on context.
2. The signs were not rated for transparency prior to the study - it is possible that high-iconic Amerind signs were compared with low-iconic ASL signs, and that a different group of signs might have yielded different results. Transparency is a relative, rather than an absolute, value.
3. The theoretical comparison of ASL and other sign systems does not take account of recent linguistic studies of ASL which indicate its sophistication as a language, and is thus rather out of date.

Clinical Applications

For a discussion of the relationship between ASL, Amerind and BSL, see RIS 1, 1, 8-9. We do not yet know how intelligible Makaton/BSL signs are to a naïve audience, and more work needs to be done in this area.

° Kohl, F.L. (1981)

Effects of motoric requirements on the acquisition of manual sign responses by severely handicapped students
Am. J. Ment. Defic., 85, 4, 396-403, 1981

Summary

Eight severely handicapped school age students were given training in the production of signs which varied according to three parameters:

- Iconic/abstract
- Touch/non touch
- Symmetrical/asymmetrical

Definitions

Iconic "the physical movement of the sign closely approximates or mirrors the shape or the action associated with the referent".

Abstract "the physical movement of the sign does not resemble the shape of or action associated with the referent".

Touch/non touch refers to whether or not the hand comes into contact with the other hand, or part of the body.

Symmetrical/asymmetrical refers to whether both hands make identical configurations, or one hand remains stationary, and the configurations are different.

The task was to learn to produce a sign in response to the instructor holding up an object, saying its name, and requesting the sign, without a model or other guidance.

The subjects were divided into two groups - one learned only "abstract" signs, the other "iconic", but both groups learned touch/non touch, and symmetrical/asymmetrical signs.

Results

Symmetrical and touch signs were acquired faster than asymmetrical, non touch signs. The effects of iconicity were not possible to determine, because the differences between the subject groups (the between group variance) were much larger than those within each group (within group variance) - it would obviously have been better if all subjects could have learned iconic and abstract signs. There was, however, an unexpected trend of abstract signs being acquired faster than iconic signs.

Clinical Applications

The facilitative effect of symmetry and contact on sign learning is supported in part by the work of Bowler & Kiernan at Thomas Coram, and by Cooney & Knox in Australia (Anne Cooney is MVDP Regional Representative there - her paper is so far unpublished). These researchers found that "two hand same" signs are easier to learn than "two hand different". However, at TCRU, the findings on contact were different depending on whether this was hand-hand or hand-face, and this variable seemed to interact with handshape and movement.

With regard to iconicity, comparison with the Griffith & Robinson paper indicates the critical role of research design in determining results. Clearly this is an area in which further research is called for, and feedback from clinicians' records.

° Kohl, F.L., Wilcox, B.L. & Karlan, G.R. (1978)

Effects of training conditions on the generalisation of manual signs with moderately handicapped students

E.T.M.R., 13, 327-335, 1978

Cross-Reference

MVDP Research Information Service: TEACHING METHODS: CLIENTS

Summary

A small study designed to examine acquisition, generalisation and maintenance of sign production across different persons, settings, materials and stimulus cue conditions.

Subjects

Three moderately handicapped children, aged 7-8 years, with limited spontaneous speech, and sign vocabularies.

Twelve food signs unfamiliar to the children were selected, and each child received direct training on three, and was exposed indirectly to another six. Training took place in the classroom, for the children as a group, in daily 15 minute sessions, on weekdays, with the student teacher, (25 minutes direct instruction per week, per student, 75 minutes total instruction time). The Speech Therapist saw each child individually for 2, 15 minute sessions per week. Each student was presented with a picture, and asked and signed "what is this?" shaping was used to teach the sign. Training took place over 11 school days.

Generalisation probes were taken during the second week across persons (teacher, speech therapist, unfamiliar adult) across settings (classroom, speechroom), materials (pictures, real food) and cues to respond ((1) "what do you eat for lunch?"; (2) same question, but with the pictures provided as visual cues; and (3) "what is this?" as instructor picked up the picture - i.e. as in the training condition).

Some of the results were as follows:

1. Group vs. Individual teaching

All the children reached criterion sooner on the signs trained directly in the classroom, than in the speechroom. Total instruction time was less, and there was more opportunity for repeated sign exposure.

2. Cues

The subjects did not generalise readily to the new question employed in the probe - "what do you eat for lunch?" Use of only one direct request is to be avoided in training.

3. Effects of setting

Regardless of which person probed for generalisation, the greatest number of signs produced in each probe condition were those signs that were directly trained in the same setting in which the probe was made - i.e. if the probe was conducted in the classroom, signs which had been trained there were produced more often than those trained in the speechroom. The authors conclude that it would seem

imperative that instructors train in the actual environment where students will be expected to use their signs. The practice of taking students out for isolated language instruction is inefficient, and requires additional programme steps to ensure generalisation to natural settings.

4. Indirect learning

Signs to which students were exposed indirectly in the small group sessions were learned as quickly and transferred as extensively as the signs which were directly trained. The authors feel that further investigations are needed to determine the pre-requisite conditions for effective group instruction, but this finding has clear implications for teaching strategies.

Critical Points

As the authors themselves acknowledge, more information is needed on the backgrounds of the students. For example, there is no record of the level of their functional communication, sign or speech, and the extent to which they generalised what they learned across teachers, settings, and cues, before the experiment began. We could be dealing with very particular responses. Nor is there any information about other aspects of behaviour, e.g. attention - which are critical to the planning of teaching strategy. The authors suggest that training should take place in the natural environment, rather than in an isolated room, but excessive distractibility on the part of a student might interfere with learning, and necessitate the kind of generalisation programme they deem inefficient.

Clinical Applications

This study needs replication with a larger group of subjects with differing degrees of handicap, before the results can be validated - as the authors suggest. Many of the findings (e.g. on indirect learning, avoidance of over-specific cues in teaching, use of small groups in classroom) bear out current Mkaton practice.

Although such a small scale study, it is one of the very few to address directly the problem of generalisation: the findings are well worth further investigation.

* Lombardino, L.J., Willems, S. & MacDonald, J.D (1981)

Critical considerations in total communication and an environmental intervention model for the developmentally delayed

Exceptional Children, 47, 6, 455-461, 1981

Cross-Reference

MVDP Research Information Service: TEACHING METHODS: CLIENTS

Summary

The authors discuss issues relating to selection criteria, assessment, and programming in teaching total communication.

Selection

Six types of population are identified for whom total communication can be considered a viable goal.

Assessment

Four fundamental questions are suggested on which to base an assessment:

1. Does the client have the prelanguage skills necessary for a symbol system?

The authors state that in their experience, and backed up by research into communication development in young children, the existence of intention to communicate, through gesture or vocalisation is the main pre-requisite - developing during Piaget's sensori motor stage 5. The representational skills which develop at a later stage (e.g. a mental image of a nonpresent event) are not felt by the authors to be necessary for early functional usage. They claim that these skills may in fact be facilitated by the training of sign-referent association.

2. Can the client be prompted to imitate signs with some degree of intelligibility? If not, the authors suggest that a symbol system may be more appropriate than signs.

3. What natural gestures are used for communication?

In view of the naturalistic studies indicating that young normal children have an elaborate nonverbal communication system long before they speak, the authors suggest "signing should not be seen as a radically new process for a child, but rather as a natural one that simply has not been systematised into social use"

Assessment of the intentions which are communicated will reveal valid beginning targets for total communication.

4. Is the client able to co-ordinate oral musculature movements for speech?

This issue can help to determine whether signs + speech, or signs alone should be required of the client.

Programming

The Environmental Language Intervention (ELI) Model is described, which assesses and trains semantic relations at the two word level (e.g. Agent-action - Daddy throw - Negation + X No ball). The programme trains expression first, and then introduces receptive training. Strategies are described for prompting the sign, and introducing it into conversation.

Critical Points

It is not entirely clear how the ELI is implemented with respect to single words or signs, since the only framework presented is at sentence level.

Clinical Applications

(1) This is an interesting discussion of the issues involved in assessment and training. The suggestion that intentionality is the fundamental pre-requisite for learning symbolic communication is supported by the theories of Schaeffer (see RIS 1, 4, 34-39), by Kiernan (1981) see This Issue, and by the experience of some clinicians using Makaton who have found it possible to train other skills such as attention, eye contact, through teaching signs. More research is needed here.

(2) The semantic framework presented here is worth exploring if you are looking for a way to formally describe the sign and word combinations of your clients (further references are provided).

(3) The notion that signs are a natural, rather than an artificial mode of communication, could be an appealing one for parents and staff when you are introducing signs.

* Murphy, G.J., Steele, K., Gilligan, T., Yeow, J. & Spare, D. (1977)
Teaching a picture language to a nonspeaking retarded boy Behav. Res. & Therapy,
15, 198-201, 1977

Summary

Case study of a fourteen year old retarded boy with autistic features, who had failed to learn to sign (Paget-Gorman Sign System) despite intensive operant training. He learnt to use his skills in object picture matching to request items, present and absent. He was able to generalise from a specific picture to a class of items.

The authors speculate that level of symbolic abstraction was the main factor operating here - the pictures being more directly representative of the object than the signs. The permanence of the "words" and the possibility of using recognition rather than recall may also be important. (Also, although the authors do not include it in this discussion, the fact that the boy was learning to apply a skill he already possessed, rather than learning a new skill, must have been crucial to his success.)

They discuss whether or not this communicative use of pictures amounts to a language, and conclude that this depends on definition. The boy has a minimal level of communication.

Critical Points

In describing training procedures, the pictures are considered equivalent to words or signs - thus "comprehension training" describes the instructor selecting a picture, and the boy giving the appropriate object, and "expression language training" was the reverse. However, another way of looking at the training would be to say that the boy was learning how to use matching skills in a communicative way - to give, and to indicate.

Clinical Applications

Picture object matching is used a lot in teaching, and this study describes how the skill could be extended. The boy carried the cards on a string round his neck, and selected the pictures in order to request items. Ultimately, it was hoped to move towards more abstract symbols, and teach other language functions.

* Salisbury, C., Wambold, C. & Walter, G. (1978)
Manual communication for the severely handicapped: An assessment and instructional strategy
E.T.M.R., 13, 393-397, 1978

Cross-Reference

MVDP Research Information Service: TEACHING METHODS

Summary

Describes how two mentally retarded clients - one aged 13 in an institution, and one 3 year old at home with his parents attending day school - were taught limited sign vocabularies. Prior assessment covered receptive and expressive language, fine and gross motor skills and cognitive and social areas, using checklists. Signs were taught in the settings in which they naturally occurred, and were reinforced by ward staff and parents.

Both children learned a number of signs, and used some of them spontaneously. The elder boy created two and three word sentences. There was marked increase of vocalisations for both.

Clinical Applications

An interesting technique was used systematically to vary the cues and questions used to elicit the signs, and to approximate normal conversation. The instructor first modelled the sign and said the word, e.g. EAT - then included the word in the cue "it is time to eat", then in a question "do you want something to eat?" then faded the word "what do you want?". The authors claim that this facilitated spontaneous use of signs (by which they obviously mean responsive spontaneous signing).

° Wolf, J.M. & McAlonie, M.L. (1977)

A multimodality language program for retarded preschoolers
E.T.M.R., 12, 197-202, 1977

Summary

Describes the use of the Minnesota Early Language Development Scheme (MELDS) with eight retarded preschool children, aged from 2.2 - 3.9 years. The programme combines ASL signs, rebuses and spoken words and trains receptive language skills - opportunity is provided for expressive responses. The children were placed on the language programme for seven months. Teachers in the day centres they attended worked with them three times weekly. Data showed that the children were able to make substantial gains in receptive language over the period, and expressive language gains were made by at least four of the eight subjects.

The authors had originally hoped to use a similar structured programme with a control group, but this proved impossible. They state that results must be regarded within the limitations of a descriptive study.

It is thus difficult to draw conclusions about the relative efficacy of this programme compared to others which place more direct emphasis on expressive skills training.

(See Smeets & Striefel (1976c), RIS 1, 3, 26-27, for some points about generalisation between receptive and expressive modes.)

° Bonvillian, J.D., Nelson, K.E. & Rhyne, J.M. (1981)

Sign language and autism

J. Autism & Developmental Disorders, 11, 1, 125-137 1981

Summary

A useful review of research findings and issues in teaching sign language to nonspeaking autistic children. Data on over 100 children indicate that nearly all autistic children learn receptive and expressive signs, and many learn to combine signs. The children also show marked improvement in adaptive behaviours. Speech skills are acquired by fewer children, and may be developed through simultaneous speech and sign training.

Suggestions for Future Research

Investigators need to move beyond the current practice of focussing on vocabulary size, and include records of children's combinations, and the contexts in which they occur. This would allow some inference of what semantic relations and pragmatic functions are encoded by autistic children; and would also permit identification of specific higher order language problems. Such evidence would help in the refining of teaching strategies.

Factors influencing speech and sign acquisition

Hypotheses are discussed, based on the existing literature: including the familiar arguments that sign, as a visual-motor communication system, may bypass the difficulties that autistic children have in auditory-vocal processing; the ease with which physical guidance can be applied; the iconicity of signs.

An interesting suggestion by Yamada et al (1979 - reference supplied) is presented to account for the facilitation of speech through signing - namely that words which are difficult to say, or sound similar, may be more easily distinguished through simultaneous communication; and that autistic children may come to perceive words in terms of phonemes only after they have learnt some correlations between hand and voice. The work of Schaeffer is also mentioned here.

More progress seems to be made with signing when the children are young, and spend a long time in programmes, are more able prior to signing programmes, can signify desires through pointing (informal observations) and can imitate speech.

Teaching strategies

- (1) A total signing environment should be considered as an alternative to distinct, isolated training sessions.
- (2) To foster spontaneous communication, teachers should focus on discourse skills, allowing the child to adjust his language to different situations and persons. Some specific suggestions are made for implementation.

NOTE: RIS 1, 4, Autism and Nonspeech Systems - Introduction page 2 contains a reference to Gersten (1980), unfortunately we omitted to supply the details of this paper:

* Gersten, R.M. (1980)

In search of the cognitive deficit in autism beyond the stimulus overselectivity model
J. Special Ed., 14, 47-65, 1980