ISSUES IN DESIGNING AN ASSESSMENT OF BRITISH SIGN LANGUAGE DEVELOPMENT

Rosalind Herman

Dept of Clinical Communication Studies
City University
Northampton Square
London EC1V OHB

This paper reports on a collaborative project in progress to develop a standardised clinical assessment of British Sign Language development for use with deaf children. The need for such an assessment is highlighted following a survey of professionals working in this area (Herman, in press). The development of the assessment battery will be described in the context of research into the assessment of sign language development. Issues in selection of the standardisation population will be presented. Finally the need for collaboration between different professionals working in this area, in particular the key role of the deaf BSL user will be emphasised.

Introduction

Increasingly in the United Kingdom, Europe and the USA sign languages are being used with deaf children in bilingual programmes (Hansen 1987, Strong 1988, Bouvet 1990, Gregory and Pickersgill 1998). However there exists no way of monitoring the progress made by children in sign language acquisition nor of evaluating the outcomes of therapy in which sign language is the mode of communication. Furthermore identification of those children with language acquisition difficulties apart from those related to deafness presents considerable problems as we do not have any norm-referenced tests of sign language development.

This study reports on a project based at City University, London to develop an assessment of British Sign Language (BSL) for use with deaf children. Current approaches to the assessment of deaf children's signing are presented and the skills needed by assessors to fulfil this role are discussed. Thereafter the specific issues which arise in designing test materials and standardising assessments of sign language are outlined in the context of research into sign language assessment. The format of the test battery being developed at City University is then presented.

Current approaches to the assessment of BSL development in the UK

The need for an assessment of BSL development is widely acknowledged by people who work with deaf children and was highlighted following a small-scale survey of professionals involved in this area in the UK (Herman, in press). Respondents in this study

described current approaches to the assessment of BSL in the school where they worked. These included adapting existing tests of spoken language, adapting tests used to assess the developing skills of adults learning BSL and more informal video-based analyses looking at deaf children's communication in different contexts. When asked specifically what was assessed, a range of linguistic aspects of BSL were identified which taken together are impressive. However the author notes that 'there is a lack of agreement between different schools on which aspects are routinely assessed and how this should be done' (Herman, in press, p.6) and stresses the need for wider discussion on the topic.

Who is involved in assessing BSL?

The study by Herman (in press) identified speech and language therapists, teachers of the deaf and a small proportion of other deaf and hearing professionals and parents as being involved in the assessment of deaf children's signing skills. However much additional training was felt to be needed to fulfil the role of assessor adequately. This encompassed high level training in BSL, knowledge of sign linguistics and language development in BSL (the latter including differences between children from deaf and hearing families), transcription skills and elicitation techniques.

Many respondents reported that trained deaf adults have a central role to play in the assessment process. However few such individuals exist. Most hearing professionals working with deaf children lack sufficient fluency in BSL and few have knowledge of sign linguistics or BSL acquisition. Increasingly deaf professionals have these skills but lack experience in assessment which speech and language therapists possess. Another factor to consider concerns eliciting samples of sign language. Research has indicated (Strong 1988) the extent to which deaf children are sensitive to the language skills of their interlocutor, such that modifications are made towards spoken language syntax where the listener is hearing with non-native signing skills. This highlights further the need to involve deaf people in the assessment of BSL if we wish to elicit truly representative samples of sign language.

In summary it would appear that no single professional possesses all the requisite knowledge and skills yet in practice many professionals struggle alone. The best solution would appear to be effective collaboration between the different personnel involved. In addition there is a need for all professionals to be aware of research which addresses issues relevant to the assessment of sign language, much of which is only just emerging. Finally it is important for those professionals with experience in this area to disseminate their knowledge in order to stimulate discussion and to improve practice in assessment.

Research into the assessment of sign languages

Much of the research in this area is on American Sign Language (ASL) and is in the development stages. The following discussion reviews a selection of this research and that

which is taking place in the UK. As yet there are no published tests but an early approach to assessment was outlined by Hom *et al.* (unpublished). Tests were described which targeted morphological processes in ASL in young children as part of a project to document the emergence of these processes prior to designing intervention approaches. The elicitation procedures were based on Berko's (1958) techniques. The comprehension tasks involved matching real and invented signs to pictures or objects and the production tasks required the child to produce inflected real and invented signs. Results using these tests are reported in Lutes-Driscoll *et al.* (1979).

The most extensive assessment of sign language is that of Supalla *et al.* (in press). This is a test battery designed to compare native adult signers with late learners of ASL on a variety of aspects of ASL morphology and syntax. The test has been used with a small number of deaf children but no normative data are available. There is particular need for such norms because research on sign language acquisition is typically based on very small numbers of subjects. The battery is lengthy (taking two hours to administer to an adult) and many subtests are not appropriate for use with young children. Nevertheless the authors have succeeded in identifying areas of language which distinguish between early vs. late learners of ASL. These serve as useful criteria to adopt in developing test materials when faced with the question of what to include in an assessment.

An assessment looking specifically at lexical development through parental interview, the MacArthur Communicative Inventory (Fenson *et al.* 1994), has been adapted to measure development in ASL (Spitler *et al.* 1992). Advantages of this format are its applicability to very young children, its validity and its ability to overcome problems of regional variation in lexical items. However the reliability of this measure in ASL has not to date been ascertained.

In the UK most research on assessment has taken place at Bristol. Jansma (1994) evaluated the suitability of traditional methods for eliciting features of BSL. The skills of the person involved in assessment have been referred to above. She investigated the merits of three different tasks in producing morphosyntactically rich samples of children's BSL. Children were asked to either retell a story after seeing a deaf adult tell it in BSL, retell a cartoon story after viewing it or describe a story told in a picture. Her results indicated that of the three tasks, the picture description task was least effective in producing verb modification. Many of the target verbs were not elicited at all or produced in unmodified forms. In addition in retelling the story children referred directly to the picture, incorporating reference points to parts of it in their narrative, rather than setting up arbitrary locations in space which is an important part of BSL grammar. The cartoon task provided most opportunities to apply grammatical mechanisms in BSL, suggesting that it was the story content here rather than the elicitation method itself that was significant. These results suggest that materials used to elicit samples of BSL need to be carefully selected in order to produce a representative sample on which to base our assessment of children's BSL skills.

Kyle (1990) piloted a variety of adapted assessment techniques on 77 deaf children aged 4-11 years. Tasks included informal communication in an interview situation, tests looking at aspects of BSL grammar (sign order, classifier use), vocabulary measures, picture description to elicit mean length of utterance and verb morphology and a sign

decomposition task. In looking at vocabulary measures, problems were identified which related to translating tests designed for use in another language. There may not be lexical equivalence between the languages, e.g. a single word in English such as 'furniture' may be designated by a sign compound in BSL (TABLE-CHAIR). Furthermore, certain areas of vocabulary in BSL, e.g. body parts, use pointing. Clearly such items would be easier to respond to than more abstract signs and are not a true measure of BSL vocabulary. Finally the iconicity of some signs may render the task too simple, to the extent that a non-signer may pass many items. Indeed, Kyle (1990) criticises the Carolina Picture Vocabulary Test (Layton and Holmes 1985) which seeks to establish lexical knowledge of ASL on the grounds that almost a third of the items could be guessed by non-signers.

In discussing the results of the tests which were piloted, Kyle (1990) noted the generally low level of signing ability in the children and also the variability within the group as a whole, with the exception of children from deaf families whose language skills appeared to be amongst the most developed. The majority of the children's knowledge and use of vocabulary increased broadly with age but the same could not be said of other aspects of BSL grammar which were greatly delayed and also showed unexpected trends in that some of the younger children were more proficient than the older ones. Perhaps this variability is not surprising when we think of the diverse circumstances of the majority of deaf children, e.g. the age at which deafness is identified, when signing is introduced, the signing skills of the adults to whom deaf children are exposed (teaching staff, parents) etc. This raises the issue of who should constitute the reference population when sign language assessments are developed and standardised. Clearly these assessments will be used mainly for the majority of deaf children from hearing families. However standardising an assessment on such a heterogeneous group presents problems such as those illustrated by Kyle's (1990) work. Many deaf children from hearing families cannot be said to be acquiring sign language in a 'normal' way. Children from deaf signing families are in a natural language acquisition situation since they are exposed to language models more consistently and from a young age. If we are to develop norm-referenced tests, then it is argued that norms of development should be taken from this group. Similarly use of this group for the standardisation of sign language assessments will provide a firm basis from which the achievements of deaf children from hearing families can be compared.

City BSL assessment battery

The BSL assessment battery being developed at City University is the result of collaboration between three individuals: a speech and language therapist who is a specialist within the field of deafness, an expert in BSL and sign linguistics and a deaf researcher with considerable experience of working with deaf children. The BSL battery is designed to assess aspects of morphology and syntax in children aged 3-11 years and considers both at receptive and expressive skills.

The vocabulary used in the receptive test has been selected for its relevance to young children and also because it is subject to very limited regional variation within the UK. Children confirm their knowledge of this vocabulary through a simple picture

naming task which identifies signs which vary from those used in the test. In situations where their own sign varies from the test sign, children are shown the test sign and in most cases will accept this version. For very young children, adaptations to subsequent testing may be necessary but in our experience this is rare.

The picture naming task is followed by a receptive assessment which has a video presentation format. Children watch a deaf adult signing instructions to them on video and respond by selecting the most appropriate picture from a choice of three or four in a picture booklet. The video format was designed to eliminate variation in presenting test items which emerged in the pre-pilot stages where a live presentation was used. In certain circumstances, the tester may present items live, e.g. when it is felt that vocabulary differences will interfere with the child's performance or when the child is unable to cope with responding to the video. The receptive test consists of 40 items, organised in order of difficulty, which assess children's knowledge of a range of BSL structures, e.g. negation, number/distribution, verb morphology and noun/verb distinction. Items were selected based on the available research into sign language development and drawing on aspects of sign languages which are known to present problems to later learners. Testing time varies from 12 minutes for children able to work through the test without stopping the tape (the picture fades between items to allow time to respond) to 20 minutes for children who require more time to respond. Scoring is possible at two levels: a pass/fail analysis which yields a raw score (eventually to be converted to a standard score) and an error analysis which allows the tester to look in more detail at the pattern of response.

Samples of expressive signing are elicited in two subsequent tests. Certain BSL structures are elicited using similar pictures to those used in the receptive test. Initially the order of tests was varied but a problem arose in that use of this expressive test before the receptive test led to great variation in the type of responses produced by the children. By completing the receptive test first, children have a better idea of what is expected of them and the range of responses is constrained to those being targeted.

The final part of the assessment battery is a story recall task. The child views a short video clip of three minutes duration involving two deaf children acting out a story sequence and then retells the story to a deaf adult. The particular story was selected because of its repetitive story-line which has a correspondingly light load on memory and its effectiveness in eliciting aspects of BSL grammar which relate to story-telling (e.g. role shift) and which extend across sections of discourse (e.g. setting up locations in space for use with verb morphology). In addition this task produces a more spontaneous sample of BSL which is felt to be highly reflective of performance outside the test situation. A few questions are then asked to look at the child's ability to respond to selected 'wh-' questions. Both expressive tests are video-recorded for later analysis.

A pilot version of the assessment battery was used with 40 children from deaf families and a revised version is currently being standardised on a larger sample. The standardisation sample has been extended to include selected deaf children from hearing families who have had early and consistent exposure to BSL so that their performance is similar to that of children from deaf families, e.g. where there are other deaf family members, where parental signing skills are exceptionally high, or where there has been

frequent contact with deaf adults either inside or outside school. Data analysis is currently in progress and the final project report will be available at the end of 1998.

Acknowledgements

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