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The role of semantically rich gestures in aphasic conversation

Judith Kistner (Judith.Kistner.1@city.ac.uk), Jane Marshall (J.Marshall@city.ac.uk), Lucy Dipper (L.T.Dipper@city.ac.uk)
City University London, UK

Background: Gestures play an important role in everyday communication. They provide additional information to conversation partners about the meaning of verbal utterances and help to clarify even abstract concepts. There is evidence that gestures are not simply produced for the benefit of the listener but also support the speaker. The relationship between speech and gesture is of great theoretical interest. Indeed the strong ties between speech and gesture have stimulated discussions about the neurological links between the modalities and the possible gestural origins of language.

Because of the importance of gesture in communication, several studies have investigated the use of gestures in aphasia. Aphasia is a speech and language disorder caused by damage to the language areas of the brain e.g. because of stroke. It is important to know how people with aphasia (PWA) use gesture as both an accompaniment to speech and as a compensatory modality. Such knowledge can contribute to potential treatment regimes and may point to strategies that can assist everyday communication. Studying gesture use in people with compromised language can also contribute to the theoretical debate about the relationship between the modalities.

Most studies to date have focused on the effects of gesture in structured naming tasks, rather than in more natural conversation.

Aims: This study examines the natural conversational use of gestures in aphasic speech and addresses several research questions. This presentation focuses only on the following research questions:

- (1) To what extent do PWA employ semantically rich gestures? What impact does their semantic competence have on gesture production?
- (2) Do semantically rich gestures take different roles during conversation?
- (3) Do different topics (i.e. narrative and procedural) elicit different gesture patterns?

Methods and Procedures: Twenty people with aphasia have been recruited. Extensive background testing has been done to investigate cognition, apraxia and language, including tests of lexical semantics and non-verbal semantics.

Conversation samples of ten minutes in total have been collected. Video samples will be transcribed and analysed for both gesture and speech production. Semantically rich gestures (iconic, metaphoric, pantomime and emblems) and their roles (facilitative, communicative or augmentative) will be contrasted with deictic and beat gestures. This will indicate whether participants are using gesture mainly to supplement or to replace speech.

Results and Analysis: The data analysis is on-going and results will be available for presentation at the conference.

The following methods are being used in the analysis:

- (1) All semantically rich gestures are identified within the conversation.
- (2) Semantically rich gestures which help resolve a word finding block (i.e. which occur within three seconds of word finding behaviour and before the next utterance) will be categorised as being *facilitative*.
- (3) All other semantically rich gestures will be either categorised as being communicative or augmentative.
 - a. If a gesture occurs alongside speech and supplements it, it is considered as being *communicative*.
 - b. If a gesture is produced to replace speech, it will be categorised as being *augmentative*.

Conclusions: PWA are expected to produce a high proportion of semantically rich gestures overall to facilitate, supplement and/or replace their speech. However those who have deficits in non-verbal semantics are expected to use fewer semantically rich gestures than those with intact lexical semantics. The exact distribution of the different roles gestures can take (facilitative, communicative and augmentative) is expected to depend on several factors. One of these factors is the number of word finding difficulties experienced by the speaker and whether these are resolved. Another one is the topic of the conversation. It is hypothesised that procedural topics are likely to elicit more iconic, pantomime and deictic gestures than narrative topics.

References:

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