Multimodal AAC Use In Conversations Involving an Individual with ALS
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INTRODUCTION TO MULTIMODAL RESOURCES
All interactants are multimodal communicators and regularly rely on a variety of resources to constitute utterances. These resources include speech and voice, gestures, body movements, facial expressions, physical objects, and their communication partners. These resources are used in order to construct utterances that will be understandable and meaningful to conversational partners. 1, 2, 3, 7, 10, 11, 12.

• Constructing utterances based on partner positioning: Interlocutors utilize different communication resources based on their partners availability (e.g., partners location and ability to visually attend to speaker)1, 2, 3.

• Constructing utterances using voice, hand movements, and facial expressions: AAC users utilize a variety of resources for utterance construction.13 Because of the temporal properties of pointing, speech, etc., these may be additional resources for utterance construction.14, 15

• Constructing utterances using objects: Interlocutors use objects available in their proximal physical environment in their utterance construction.16

The current investigation examines the multimodal communications that occur during authentic interactions between a man with ALS, his speech therapist, and his wife.

METHODS
• Interactions between a man with ALS (J), his speech-language clinician (T), and his wife (K) were analyzed. J was diagnosed with bulbar ALS in December 2008. At the time of the investigation J obtained a score of 24 on the ALS Functional Rating Scale (ALSFRS-R) (Lauer et al. 1999). Speech intelligibility was given 1 month prior to the investigation. J was EFL, intelligible (moderate dysarthria). All use of observation J’s intelligibility was severely impeded. J utilized a Dynavox, Lightwriter, and speech supplement the signing board with his left hand.
• Two interactions were selected out of 30 videos. 1) clinical session between J and K that focused on device training and 2) lunch with J and T.

These videos were selected because J’s vocal abilities were declining and he needed to rely on his AAC devices for spoken communication.

• Interactions were transcribed according to traditional Jeffersonian Conversation Analysis transcription techniques.17

• Videos and transcripts were analyzed for use of body-based and technical resources by the participants as they constructed utterances for each other.

RESULTS
Constructing utterances based on partner positioning

J uses his Lightwriter differently depending on if T is in or out of the dining room. When T is out of the room J constructs the entire message before listening it (Start). When T enters the dining room, J now issues his utterance in a word by word format (lines 10, 14, & 17). J and T use the newspaper to ground their utterance in a word by word format (lines 10, 12, 14, & 16).

J is physically with his body movements to reflect what he would like for lunch. J taps on the various food containers, brought to the table by T to indicate what he would like (line 14). J confirms and adds to J’s previous utterance (line 16).

Constructing utterances using voice, hand movements, and facial expressions

J initiates an exchange by his voice and hand movements to construct his utterance (line 4). K confirms and adds to J’s previous utterance (line 5).

DISCUSSION AND FUTURE WORK
• J and his communication partners rely on multiple resources such as their body, speech and voice, AAC devices, and objects to construct utterances that are understandable and meaningful.18 These resources can be used simultaneously during message construction.

• J takes into consideration where his partner is located in space. When the partner is out of the room complete utterances are constructed before speech activation is used. When the partner is in the room, J typically uses a word by word format in message generation.

• Although J has access to AAC devices, he relies on resources other than the speech output to construct utterances (e.g., using voice in conjoinction with hand movements and facial expressions, and proximal physical objects)

• J T’s work in a collaborative manner, a turn by turn basis, to ensure that meaning is achieved.

• By constructing utterances using multimodal communicative resources, participants ensure that their messages will be correctly understood.

• Future work in naturally occurring conversations with speakers who utilize AAC should be conducted. This work will allow us to better understand what resources people rely on during interaction and how they may be used in the development of new AAC technologies.

REFERENCES


