Telephone Use by Persons who Communicate with Speech Generating Devices

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ABSTRACT
Twenty four participants responded to a survey examining usage patterns of communicating with SGDs on the telephone. Results indicate that persons who communicate with SGDs use their communication device effectively for telephone interactions.

BACKGROUND
The telephone is one of the most important and common tools in daily activities. Congress has declared it to be a "major and indispensable part of the business and social lives of all Americans." The telephone enables people to instantaneously provide, seek and exchange information.

- Approximately 99% of all households in the USA have telephone service, with more than 100,000,000 residential phone lines.
- There are more than 158 million cell phone subscribers.
- In 2002, approximately 55 billion telephone calls were made in the USA (U.S. Bureau of the Census).

People with disabilities (physical, hearing or vision) have difficulty using standard telephone equipment. Likewise, persons with severe speech impairments require an alternative to speech to send a message. For people with severe speech impairments, a substitute is required for the outgoing speech signal. In face-to-face conversation, communication boards and SGDs are the most common forms of augmenting natural speech. A communication board is not adequate for telephone use because the message cannot be converted to an electrical signal for translation through the telephone network. By contrast, phone connectivity is a standard feature of many SGDs. A few have telephones already built in, others are able to connect to telephones in at least 3 ways: directly (by wire); speakerphone; or by infra-red.

The importance of telephone use to people with severe speech impairments has received little research. Nakamura, Arinta, Sakamoto & Toyota (1993), reported on the intelligibility of synthesized speech when used on the telephone only from the listener's perspective. Drager, Hustad & Gudle (2004) repeated this research, however neither addressed the experience & opinions of SGD users.

PARTICIPANTS
- An initial list of 60 persons who use SGDs as their primary means of communication was obtained from SGD manufacturers and SLPs.
- These individuals were telephoned to determine whether they were using their SGD for telephone communication.
- From this, 34 potential participants were identified & the survey was distributed to them.
- From the mailings, 24 individuals returned the survey and are included as participants, indicating a 71% return rate.
- Participants were from in ten different states (TN, OK, CA, NE, PA, GA, IL, FL, TX, & CO), and the majority live in their own home (75%); while the remaining participants live in a residential facility (16.7%) or other location (8.3%). They used products from a range of SGD manufacturers.

RESULTS

The figure below illustrates that the participants represented a range of overall length of SGD use.

- Participants use their SGD to communicate on the telephone, with distribution of calling/answering across all options. Telephone conversations were initiated by the person using the SGD and by others (familiar & unfamiliar). Figure 2 illustrates the frequency of telephone use. None have a call less than 1 minute; however, 25% of the participants reported more than 45 minutes occurred with a familiar listener only. The figure illustrates the percentages of participants, length of conversations for both familiar and unfamiliar communication partners.

The total satisfaction ratings for communicating on the telephone were significantly greater when using a SGD than when not using a SGD (F = 13.378, p = .002 (with Greenhouse-Geisser adjustment), effect size ηp = .934).

CONCLUSIONS
This study can be used to support access to a new funding program for SGDs. More than 40 states have a "telecommunications equipment distribution program," or EDP, that provides devices to allow people with hearing and speech impairments to use the telephone. For people who have no other funding source, or at times when existing funding sources, such as Medicaid or insurance, are not functioning, the EDPs can be seen as a viable alternative funding source. Other funding options may exist for SGDs is not a disqualifying factor – other equipment EDPs provide also are covered by other funding programs, and unlike Medicaid the EDPS do not claim they are the "payor of last resort." Also, that SGDs are used for general communication, in addition to phone communication also is not a disqualifying factor – other equipment covered by the EDPS also have this ability. Currently, the following states have Equipment Distribution Programs (EDPs) that provide SGDs:

- Arizona
- Georgia
- North Carolina
- South Carolina
- Louisiana
- Texas
- Maryland
- Wisconsin
- Nebraska
- Washington
- New Jersey
- Florida (pending)
- Minnesota, North Dakota, Rhode Island (historically)

Examples SGD-Telephone Connections

HANDOUT AVAILABLE: http://aac.unl.edu