TECHNICAL NOTE

Improving Museum Docents’ Communication Skills
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Abstract This article presents the results of a study evaluating a program to help museum docents improve accessibility for visitors with communication challenges (such as hearing, language and/or speech disorders). This was done by adapting docent presentations. The docents’ speech patterns were evaluated before and after a training program, and showed significant improvements in the rate, duration, and use of pauses in their speech. There also was significant improvement in ensuring that view of their faces remained unobstructed—important for people with communication disorders—in order to facilitate the consistent visibility of their facial expressions and visual cues. The training was found to be effective in adjusting the docents’ presentations so that the museum experience would be improved for visitors with communication challenges.

INTRODUCTION

Approximately forty-six million people in the USA have communication disorders that negatively impact their ability to hear, understand or talk (National Institute on Deafness and other Communication Disorders 2015). These disorders include hearing loss, language disorders, and difficulty understanding or creating a message. Individuals with communication disorders form a large population for whom the full museum experience may not be accessible (Proctor 2013).

Part of this complete museum experience includes interacting with docents. Art-museum docents share their love of and interest in art with museum visitors, and facilitate visitor learning through docent-led tours. This facilitation includes communicating information, adapting to a specific audience, and maintaining a sense of humor (Grenier 2005). Good docents go through rigorous training, and know their subject matter well. But, communicating information and adapting to their audiences can only be achieved if the docent has the skills to convey the content in an accessible and engaging manner. Docents also may find the interaction more rewarding if audience members are engaged and participate in the presentation—something which can be a challenge when presenting to visitors with communication disorders.

Types of Communication Disorders

A common communication disorder is hearing loss. It affects individuals of all ages, but is especially common among middle-aged and older adults, often gradually increasing with age (Dubno 2015). About a third of all adults have a significant hearing loss by age sixty-five, and almost all individuals have such a loss by eighty...
(Pichora-Fuller 2015). Individuals with hearing loss may be discouraged from attending events at museums due to previous experience having difficulty hearing in public spaces (Lisney et al. 2013). The ability to understand speech—separate from general hearing—also often decreases with age (Dubno 2015). For someone with hearing loss, speech may be difficult to understand—even if it is loud enough. In those cases, when following a docent presentation, individuals often rely on other cues such as facial expressions, nonverbal cues, or writing. Individuals with language disorders may need a longer time in order to understand speech, and/or may need increased time to formulate responses or questions. Language disorders have many causes, but a common type of language disorder in adults is aphasia, which can occur after suffering a cerebrovascular accident or a stroke.

Museum patrons with communication disorders often benefit from hearing assistive technology, such as a group-FM system wherein a docent wears a wireless microphone that transmits to headsets worn by visitors. This technology amplifies the speech of the speaker and can minimize background noise and echoes (Rodemerk and Galster 2015). However, amplification alone is not enough. Individuals with communication disorders need the presentation to be not only loud enough to understand, but produced clearly.

Clear Speech

Clear speech, as described by Schum (1996), occurs when the speaker attempts to express every word and sentence in a precise, accurate, and fully formed manner. For Schum, clear speech has a slower rate than conversational speech, and includes increased pauses, and longer durations as well. It has natural intonation patterns and is accurately and fully formed, but has a naturally slower pace and is naturally louder, with extra emphasis placed on key words. Clear speech also contains pauses between phrases and sentences (Schum 1996). The slower rate of speech, pauses, and clear emphasis on important concepts helps individuals with communication disorders to process and understand information (Heifer 1998). Some individuals may need more than clear speech: additional cues such as written material to supplement what they hear, gestures to direct their attention, and facial expressions to supplement the presentation (Heifer 1998).

Most individuals, with or without communication disorders, benefit from an unobstructed, well-lit view of a speaker’s face. Facial expressions, as well as, eye, and lip movements, complement auditory information, eliminate confusion, and reduce listening effort (Picou Ricketts Hornsby 2011; Lisney et al. 2013). In the museum context then, it is important for docents to face the audience members so they can use visible lip movements and facial expressions. The docent’s face should have good lighting and the docent should use natural gestures to provide additional contextual cues. Individuals with communication disorders should be part of smaller groups so that the docent can consider his/her position relative to the audience, and provide these individualized adjustments. These visual cues can only be useful if docents speak naturally, and do not distort speech movements by exaggerating or speaking too loudly.

Clear Speech Training

Clear speech training begins with a discussion of communication disorders, and
describing the effect of communication disorders on hearing, understanding and speaking. The positive effects of using clear speech and additional visual cues are highlighted to the participants. Then training includes providing instructions in clear speech practice, spoken examples and finally guided feedback and practice (Schum 1997; Koslowski and Gagne 2002; Meyer et al. 2014). Using clear speech training procedures, positive changes in the use of speech to deliver information can be expected.

The goal of this study was to evaluate the effectiveness of teaching clear speech to a group of museum docents, and to determine if the subjective and objective properties of docents’ presentations changed after a clear speech workshop and training session.

Subjectively, after training, speech should be slightly slower and louder, with more pauses. Articulation should be precise and sentence structure correct and concise. Docents should obtain and maintain eye contact with the audience, ensuring their faces are unobstructed. Their speech should show changes in the following parameters after training: increase of total utterance duration, increase in duration of pause time between sentences, and decrease in rate of speech in terms of number of syllables per second.

METHOD

Participants

Docents-in-training at an art museum were approached to volunteer for the study. Fifteen docents-in-training, retired professionals aged fifty-nine to eighty-two, with English as their first language volunteered to participate in the study. They were enrolled in an eighteen-month docent-training program at the art museum. According to a hearing screening, their hearing was adequate for optimal communication.

Materials

A H2Next Handi digital audio recorder was used for audio recording the speech samples. A Sony Handycam HDR-CX160 video recorder was used to record a spontaneous speech sample. The software program Audacity was used for acoustic analyses.

Speech samples were recorded for acoustic analyses using Central Institute for the Deaf (CID) Everyday Sentences. Each list contained common sentences varying from two to twelve words per sentence (Stach 2010). Speech samples were rated by using researcher-generated five-point Likert scales, Speech Rubric Rating Scales. The features rated were speech intelligibility, stress patterns, rate, use of gesture, vocal intensity, eye contact, facial expression, grammar, and face visibility.

Procedure

Before the clear speech workshop and training, each participant was video recorded while describing a museum artifact. The speech samples were rated using researcher generated five-point Speech Rubric Rating Scales. Each participant sat twelve inches away from the microphone of the audio recorder and read five CID Everyday Sentences for later acoustic analyses. Acoustic analyses were completed, measuring duration of total utterance, duration of pause time between sentences, and rate of speech in terms of duration per syllable using Audacity software.

The clear speech workshop and training was then presented. The presentation was interactive, and provided examples of the effect of communication disorders on understanding spoken material. Clear speech was demonstrated to the participants, and the advantages of it were discussed. This section of the presen-
tation lasted about forty minutes. Participants then practiced clear speech in a group activity for another twenty minutes (Cassie et al. 2005; Schum 1997; Koslowski and Gagne 2002; Tye-Murray and Schum 1994; Meyer et al. 2014). One month after the training, the docents were asked to be recorded describing a second museum artifact. Again they were video recorded, rated, and audio recorded for acoustic analyses as described above.\(^2\)

**Data Analysis**

To determine if there had been a significant change in the docents’ speech, paired t-tests were completed on the pre- and post-speech-training data. The subjective speech rubric rating scales of rate, grammar, vocal intensity, facial expressions, speech intelligibility, eye contact, articulation, voice, stress patterns, face visibility, and gestures were statistically tested. The acoustic analyses of duration of total utterance, duration of pause time between sentences, and rate of speech in terms of syllables per second were used for the statistical tests.

**RESULTS**

Below, the subjective data obtained through speech rubric rating scales are presented first, followed by the objective data of the acoustic analyses.

The average speech intelligibility, stress patterns, and rate were judged to be good-to-excellent pre-training, and showed little change after the workshop. The other ratings, use of gestures, vocal intensity, eye contact and grammar showed a slight, but not statistically significant change. Individual participants showed an improvement in most of the rated variables. A significant improvement in “Face Visibility” was recorded for the group (\(t=4.37; \text{df}=13; \ p=0.001\)). The change was over 1 point on in the 5-point speech rubric ratings.

The clear speech training was also effective in creating a positive change in docents’ speech production. All three acoustic variables—sentence duration, syllable duration and especially pause time—showed a positive and significant percentage change from before the training. The participants averaged a 9.1% increase in duration time. The average syllable duration increased by 8.8%. The difference in pause time before and after training was an average of 89.6%.

Duration refers to the length of time it took for the participants to produce a specific sentence. All five sentences showed an increase in \% duration change from 4.5% to 13.9%. Typically, utterances that were longer in length yielded a higher increase in duration time. The difference measured in milliseconds was statistically significant (\(t=5.49; \text{df}=69; \ p=0.001\)).

Most of the participants (12 out of 15) increased their percentage pause time significantly. There was individual variability but almost everyone yielded a positive increase. The difference, in milliseconds, was statistically significant (\(t=-2.07; \text{df}=13; \ p=.05\)). Participants also increased the duration of each syllable significantly.

**DISCUSSION AND CONCLUSIONS**

One month after attending the clear speech training, there was a significant improvement in all of the acoustic variables, and some of the
speech rubric ratings analyzed. The training resulted in significant changes in the rate, duration, and use of pauses in the docents’ speech. Another feature docents changed significantly after the training was that docents more often made sure their faces remained unobstructed. They maintained eye contact, and did not turn away from their audiences. The changes will improve understanding of content for all individuals—especially those with communication disorders on tours led by the trained docents. This training resulted in measureable positive adjustments in the docents’ presentations.

This type of training is recommended for museum docents, as well as for other professionals who interact with the public. Clear speech has been shown to result in measureable improvements in understanding a message, especially in a noisy background (Schum 1996; Bradlow and Bent 2002; Koslowski and Gagne 2002; Payton Ucanski and Braida 1994; Caisse et al. 2005). Most speakers can be trained to make the changes in their speech, and research has indicated that practice can maintain these changes in the long term (Koslowski and Gagne 2002).

Clear speech training for docents can be integrated into initial docent training, or as part of their professional development. The training consisted out of a theoretical and practical component. The theoretical component of the training clarified communication disorders and the effect of the disorders on hearing, understanding and speaking. The training also outlined the benefits of using clear speech, and providing additional visual cues on speech understanding. The practical component of the training included spoken examples and practice in the group and in pairs (Schum, 1997, Koslowski and Gagne, 2002; Meyer et al., 2014). The docents were also presented with exercises to continue to practice the techniques. The docent educator was present throughout the presentation and training, and she reinforced the material in subsequent training sessions. In future, we anticipate that the docent educator and an audiologist or speech-language pathologist will present the training. The workshop lasted only about an hour but the effects were long lasting.

These simple presentation adjustments will accommodate individuals with communication disorders and make their museum experiences less stressful, more informative and enjoyable. The benefits of a museum are manifold—including an increased sense of well-being, a strengthened feeling of belonging, connecting with people who share interests and values, and spending quality time with family and friends (Everett and Barrett 2011). These benefits must be fully available to visitors with disabilities. Adults with disabilities may assume that museums are not accessible to them, so they may not participate fully. Training museum docents to adapt their presentations to help audiences with communication disorders presents a real opportunity to improve the quality of life for these visitors.

NOTES

1. This research was presented as a poster at the American Speech Language Hearing Association, Orlando FL, November 2014.

2. To determine inter-examiner reliability for acoustic analyses, duration measurements were repeated by a second examiner. The measurements correlated highly (r=.994). Intra-examiner reliability was also high (r=.98).

REFERENCES


