

Movement-based speech therapy for dysarthria in  
Parkinson disease and apraxia of speech  
Y. Yunusova, E. Kearney, B. Haworth, P. Faloutsos, M. Baljko

Motor speech disorders are characterized by changes in speech-related movements of the tongue, jaw and lips. Speech therapy, however, often does not directly target speech movements but instead is focused on perceptual targets. With recent developments of speech movement tracking technologies real time movement data can be obtained with at a relatively low cost and used to drive various movement visualizations with therapeutic intent. There are a number of questions that need to be addressed in order to create such visualization. First, we need to define the nature of the movement targets that will underlie therapeutic visualization. Second, we need to specify the visualization design. Third, we need to address the issues of treatment design from the point of view of motor learning theory. And finally, therapeutic efficacy of the novel method needs to be evaluated. This presentation will address these questions in the context of a therapy for speech sound articulation that utilizes a series of games for speech rehabilitation. Data from those with Parkinson's disease (PD) and apraxia of speech (AOS) will be presented.