Reliability of International Phonetic Alphabet Transcriptions Generated by Applications and Websites

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Abstract: Phonetic transcription is a clinical tool that speech-language pathologists (SLP) use when transcribing speech of individuals with phonetic or phonological difficulties. Through spontaneous language samples, SLPs must examine each statement by analyzing them into segmental units. The purpose of the International Phonetic Alphabet (IPA) transcription is to ensure the reliable reproduction of oral productions. Given the lack of recent studies on IPA transcription, and the increased availability of websites and applications that purport to reliably transcribe speech, it seems important to study the reliability of these computer generated IPA transcriptions. More specifically, we seek to establish the phonetic variations of English phonemes between applications or websites, and to examine the differences in the phonetic transcription of phonemes of the same sample produced from these different websites and applications. Our study is based on the analysis of eight applications and four websites. A language sample containing all the sounds of the English language was first created, then captured in each website/application to examine the reliability of these sites/tools with respect to IPA. Results revealed that most of the consonants were constant except for [v] and there was more variability in the transcription of the vowels, as expected. Variations indicated may impact intervention goals and clinical judgment of SLPs who choose these sites/tools as their preferred method of phonetic transcription.

Keywords: International Phonetic Alphabet, Phonemes, Transcription, Speech Sample, Speech-Language Pathologist

Introduction

I n 1886, members of the International Phonetic Association created a system of symbols that would correspond to the specific sounds of oral language in order to be able to represent all perceived sounds in all the languages of the world (International Phonetic Association 1999; Lambert-Drache 1998). This association, led by Paul Passy, consisted of eleven linguists and language professors for whom phonetic theory and phonetic transcription were important for language teaching (Durand 2005; Pierret 1994). When the International Phonetic Association was created in Paris, French was the official language of communication in both written and spoken form. It was only in 1889 that English became the official language of the International Phonetic Association (Durand 2005). The International Phonetic Association published the International Phonetic Alphabet (IPA) for the first time in 1888 (Lambert-Drache 1998; Pierret 1994).

The IPA consists of a series of symbols that are used to transcribe speech using a single graphic symbol corresponding to a sound (Lorenz 2013). The speech sound produced is represented by a graphic phonetic symbol that provides a sufficient account to reconstruct the pronunciation as reliably as possible. These symbols come mainly from the Roman standard alphabet (International Phonetic Association 1999; Lorenz 2013). However, other symbols from different sources have been added or created to form the IPA due to the limited number of graphemes in the Roman standard alphabet (Lorenz 2013). There are more oral sounds than there are symbols in the Roman alphabet (International Phonetic Association 1999).

COMMON GROUND