

## TECHNOLOGY REVIEW

### *Sounds of Speech 3.0*

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## INTRODUCTION

Recently, teaching pronunciation has received much attention and second language (L2) teachers have been interested to include it in their curriculum (Derwing, 2018). Fortunately, there are a variety of computer-assisted pronunciation training (CAPT) programs that are offered online, as a mobile application, or both. The question then becomes which one to choose. This paper reviews *Sounds of Speech 3.0*, a free online [website](#) that was developed for teaching phonetics for three languages: American English, German, and Spanish. The website also has a mobile application that can be downloaded on [iOS](#) or [Android](#) devices for \$3.99. However, the application is only for American English pronunciation training, but provides translation for Korean, Spanish, and Chinese (Simplified and Traditional). This review will describe and evaluate the free website version of *Sounds of Speech 3.0*, referred to henceforth as SOS.

## DESCRIPTION

The goal of the SOS website is to provide a thorough introduction to the segmental features of three languages: American English, German, and Spanish. To introduce these segmentals, a variety of tools are provided including, animated articulatory diagrams for each sound, annotated descriptions of how each sound is produced, a facial view video, and an audio sample of each sound.

SOS focuses on providing segmentals input in which users are provided with a categorization of sounds into consonants and vowels. Consonants are divided according to the manner of articulation, the place of articulation, and the voicing of the consonant. Vowels are divided into two types in American English and German, monophthongs and diphthongs, whereas, in the Spanish module, vowels are divided into semi-consonants, semi-vowels, and diphthongs. The user can select the manner, place, or voice of consonants or one of the vowel types to read a brief description to which it refers. Figure 1 shows this interface. The screenshot on the left shows that when “manner” is selected in the English consonants module, a description of the manner of articulation appears. The image on the right shows the detailed information when “stop” is selected.

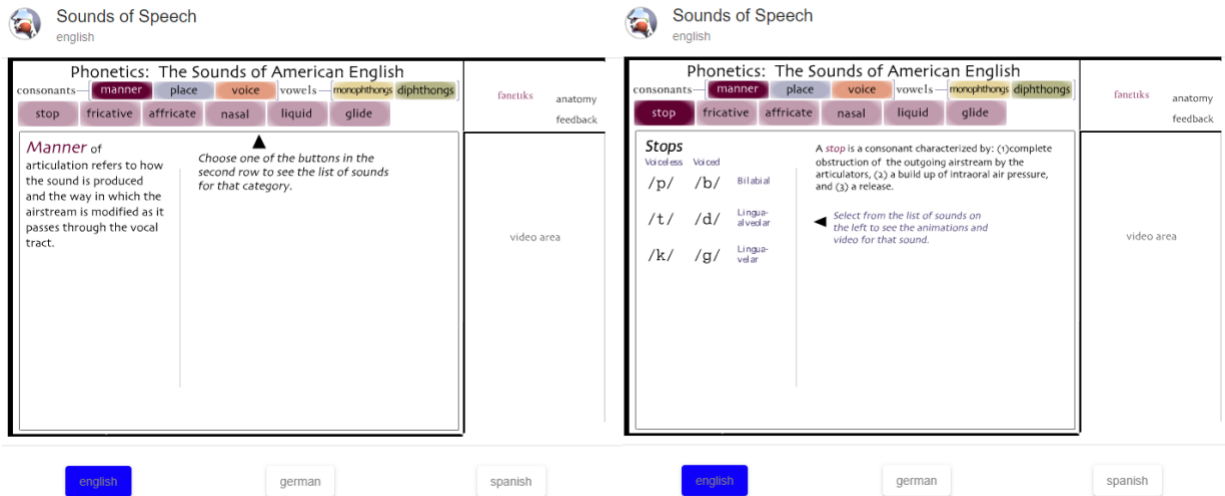


Figure 1. Selection of manner of consonants (left) and selection of the category stops (right) in the English Module.

Once a category is chosen, the phonetic transcription for each sound is provided, along with words that use the target segmental in word initial, medial, or final position (see Figure 2). In the Spanish model, these examples are provided in both the Spanish alphabet and phonetic transcriptions; however, for the American English and German modules, the words are only given in their phonetic transcription. Within the interface, users can play an animated articulatory diagram with the audio of the target sound by clicking the ‘animation with sound’ button at the bottom of the screen. Users can also follow a step-by-step annotation with a highlighted articulatory diagram of how to produce the sound by clicking the ‘step-by-step’ button, also at the bottom of the interface. In addition, users can watch a video with the front view of a native speaker’s lips pronouncing the sound located on the top right side of the screen. In the Spanish and German modules, users can play a video of the examples. In addition, videos include male and female native speakers of Spanish (with two different female speakers), but American English and German modules have only a female native speaker for audio and video.

**Fonética: Los sonidos del español**

consonantes			vocoides			
modo	lugar	voz	vocales	semi-consonantes	semi-vocales	diptongos
oclusivas	fricativas	africadas	nasales	espirantes	laterales	vibrantes

**Oclusivas**

[p]	[b]
[t]	[d]
[k]	[g]



[b] ▶ play



animation with sound



step-by-step description

TrEbz

IPA/Hispanic Linguistics equivalences	anatomy feedback
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[b]

[bú.ke] *buque*

[bá.ɣo] *vago*

[sóm.bra] *sombra*

[óm.bre] *hombre*

▶ Play All

Figure 2. Interface for the Spanish /b/ sound.

## EVALUATION

To evaluate SOS, we are using guidelines developed by Neri, Cuchiarini, Strik, & Boves (2002) which center on how input, output, and feedback are used within the CAPT tool. Input refers to the quality and quantity of language received by a language learner, whereas output is the language produced by the learner. Finally, the different kinds of feedback given by teachers, peers, or native speakers can help learners improve their production.

According to Neri et al.'s (2002) guidelines for CAPT evaluation, SOS has successfully achieved its goal of offering users comprehensive input for the sounds of the three target languages. SOS is considered a good first step in learning the target language sounds in American English, German, and Spanish since the perception of language sounds is essential for accurate production (Neri et al., 2002). In addition, literature in L2 pronunciation teaching has supported the positive outcome of explicit phonetic instruction (e.g., Gordon, Darcy, & Ewert, 2013; Lord, 2005; Saito, 2011; Venkatagiri & Levis, 2007). This is clear in SOS by the detailed description of the segmental features and the explanation of how to produce the sounds via the animated articulatory diagram and the step-by-step annotation. In addition to providing input in a written form, SOS also presents the sounds in audio and audio-visual modes which helps learners to get an essential information about the different aspects of L2 pronunciation (Navarra & Soto-Faraco, 2007; Neri et al., 2002). The Spanish module presents the best example among the other two languages modules since it has a variety of input from three different native speakers of both genders.

Although users can hear each sound in isolation and in different position in words, the examples in SOS for all modules are only provided as individual words. Providing meaning context can play a vital role in improving pronunciation learning (Avery & Ehrlich, 1992; Neri et al., 2002) and this might be a future development for SOS to consider.

## CONCLUSION

On the whole, *Sounds of Speech 3.0* is successful in achieving its goal in offering a comprehensive description of the segmental features of the target languages. SOS is also a good source of authentic input of segmental of the target language provided. In this sense, SOS can be a useful starting point for teachers in presenting segmental sounds of the target language and as perception training for L2 learners. Teachers can use the animated diagrams or videos along with the audio of native speakers for in-class instruction or to encourage learners to practice at home. Since the tool is free, it is accessible for students to use independently. Nevertheless, we recommend that teachers use SOS in classroom instructions while supplementing it with production activities and adequate feedback since these are integral parts of teaching and learning L2 pronunciation (Neri et al., 2002).

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