

*Have you warmed up yet?*  
**Coaching alveolar trill production with techniques from speech pathology**

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The Spanish alveolar trill /r/ can be challenging to acquire for adult learners. The trill requires considerable aerodynamic and articulatory strength to produce and sustain. Research on pronunciation instruction has revealed its efficacy and benefit for L2 Spanish learners (Kissling, 2013). For native speakers of Spanish, this complex sound is developed later and typically does not solidify until the age of 6, making it vulnerable by nature to mispronunciation (Boyce et al. 2016). Recent evidence has shown that the alveolar trill involves double articulation, involving both the tongue tip and alveolar ridge as the primary articulators, as well as a secondary process of pharyngealization and a movement of the tongue root (Boyce et al. 2016). For adult learners of Spanish that don't have the alveolar trill /r/ in their sound inventory, the misarticulation of this trill can be problematic since the sound requires the simultaneous action of two articulators.

As certain communication disorders can be attributed to difficulties with double articulation, we propose that utilizing similar warm up techniques to those used to address this articulatory problem by speech pathologists – like the ‘Bronx cheer’ (Figure 1) or the ‘Tiger method’ – may also be beneficial for the explicit instruction of the alveolar trill /r/ (Figure 3) for L2 learners of Spanish. By drawing the students’ attention to the correct use of both articulators separately while emphasizing the importance of airflow for creating the multiple obstructions that characterize the alveolar trill, we will show that leading students through a brief series of vocal warm-ups will facilitate more accurate and efficient articulation of the /r/.

Other disciplines that use aerodynamic and articulatory warm-ups include interpreting, acting, and singing. Kang et al. (2019) investigates the benefits of acoustic and aerodynamic warm-up techniques in untrained singers. They propose the ‘straw method’ which entails phonating through a straw to control the breath (Figure 2). With this technique, Kang et al. (2019) emphasizes the importance of proper respiration and while claiming that “leading the intrinsic laryngeal muscles through a series of vocal warm-ups facilitates contraction and efficiency” (Kang et al., 2019:2). We will demonstrate the following brief activities/techniques by basic Spanish language instructors in the classroom:

1. Airflow is essential to proper production of the trill. Prior to warming-up, students will use the ‘Straw Method’, which can help relax, as well as stimulate the blood to move to the muscles involved in the production of the trill.
2. A specific technique, colloquially known as the ‘Bronx cheer’, involves producing a bilabial trill, or ‘blowing a raspberry’ while sticking the tongue between the lips, is used to express contempt, or to show disapproval of a call during sporting games. This sound is closely related to the alveolar trill from an aerodynamic perspective, and is prevalent in English culture, though it does not represent meaning-bearing linguistic units. Students will practice the ‘Bronx Cheer’.
3. Another technique, known as the ‘Tiger Method’ involves producing a uvular trill /r/ in the back of the throat, like gargling on water (Figure 5). Students may start with gargling with water to mimic the uvular movements and continue without the water.
4. After warming up the breath and the mouth, students will now be able to produce the alveolar trill more efficiently. Present the following words which feature the alveolar trill in word-initial and intervocalic position to your students to produce: *rojo, rata, perro, carro*.

**Selected references**

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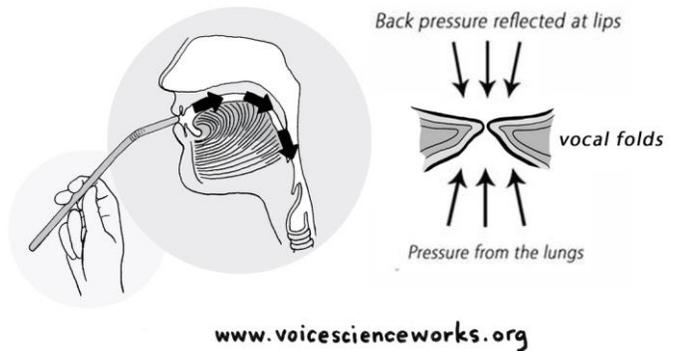
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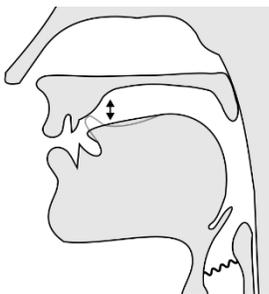
**Figures**



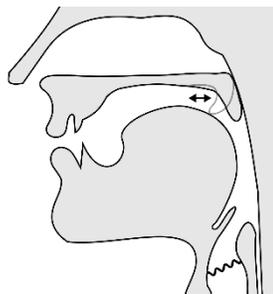
**Figure 1.** Person producing the Bronx cheer (A.K.A. a raspberry).



**Figure 2.** A demonstration of the Straw method.



**Figure 3.** A sagittal section of the voiced alveolar trill /r/.



**Figure 4.** A sagittal section of the voiced uvular trill /R/.



**Figure 5.** Chewbacca demonstrating the uvular trill (the Tiger method).