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TEACHING TIP

THE TIC TAC TRICK TO TEACH THE AMERICAN ENGLISH ARTICULATORY SETTING

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INTRODUCTION

Second language pronunciation instruction typically begins with a focus on articulation or the manner in which to produce individual vowels and consonants. Lacking from the teaching and learning of English pronunciation, however, is instruction on the language's *articulatory setting* (AS), or default position for articulators. Surprisingly, since as early as Sweet (1890), it has been pointed out that unique to each language are its underlying tendencies, habitual configurations, or default positioning of the articulators (lips, jaw, tongue, and velum). The concept of language-specific underlying tendencies was termed articulatory setting by Honikman (1964) and defined as the "gross oral posture and mechanics both external and internal, requisite as a framework for the comfortable, economic, and fluent merging and integrating of the isolated sounds..." (p. 73). Consequently, AS offers increased efficiency and effectiveness of pronunciation instruction because it underlies sound production and provides the tools to over-come cross-linguistic transfer tendencies, which often impede L2 pronunciation.

In addition, according to the Noticing Hypothesis (Schmidt, 1990), conscious awareness is necessary to convert input to intake. Applied to pronunciation instruction, this means awareness is needed to begin the learning process in converting consciousness about production mechanisms to actual fluent production. Specifically, learners need both the *awareness of noticing*, that is, the "conscious registration of the occurrence of some event" and *awareness as understanding*, "recognition of a general principle, rule or pattern" (Schmidt, 1995, p 29). The Tic Tac trick provides a practical technique for introducing the noticing and understanding of AS for American English. The aims of this teaching tip are to: (a) introduce articulatory settings and the settings specific to American English and (b) describe the use of a Tic Tac to help students become conscious of the American English settings.

Background

According to Sweet (1890), "Every language has certain tendencies which control its organic movements and positions, constituting its organic basis or the basis of articulation. A knowledge of the organic basis is a great help in acquiring the pronunciation of a language" (p. 69). In addition to *organic movements and positions*, the concept of AS has been referred to as organic base (Wittig, 1956), Artikulationsbasis (Arnold & Hansen, 1975), voice quality settings (Esling & Wong, 1983), postural configurations (Gick, Wilson, Koch, & Cook, 2004), and articulatory posture (Roach, 2014)¹. In spite of the variation in terminology, there is consistent historical and contemporary recognition that each language has a unique set of underlying mechanisms, or default settings, which ultimately enable language-specific speech. There is also evidence that underlying AS is a language's neutral vowel, which is produced with the articulators in a configuration closest to the AS of that language (Gick, et al., 2004). Even postures (settings) during grammatical pauses have been found to have mechanical advantage to facilitate efficient

¹ See Jenner (2001) for a more thorough historical description of the concept.

postural motor control of articulators (Ramanarayanan, Lammert, Goldstein, & Narayanan, 2014). This information suggests that AS underlies the positions of ‘schwa’ and typical filled pauses of “uh” and “um” in American English and the position plays a significant role in efficient speech production. Recently, actor Christopher Aruffo gave a *TEDxMcMasterU* talk describing his experience learning different accents by watching and mimicking. Aruffo (2012) skillfully demonstrates a direct connection between muscle movements and settings in relation to their implications for changes in how one's speech sounds.

In sum, AS can be viewed as the “default settings” for a language and offers pronunciation instruction a corner stone for efficient learning and effective production of a language. Since AS can be seen as a foundation of pronunciation, there is a strong rationale to include it in pronunciation instruction. The underlying theoretical basis of this teaching tip that will be described below is noticing, that is, students become aware of and understand what to do for new motor-skill development. The pedagogical premise for this teaching tip embraces effective pronunciation instruction as a systematic and scaffolded² learning process that includes awareness-raising (discovery), introduction of explicit information (declarative knowledge), guided practice, self-monitoring and assessment, and feedback. As a teaching technique, the Tic Tac trick can be used for discovery and facilitation of these key components in the learning process.

What Teachers Need to Know about Articulatory Setting

Introduction to AS and the American English Settings. When two languages differ, attempting to master the pronunciation of one while maintaining the articulatory setting of the other will impede production accuracy (Honikman, 1964). Articulators include the lips, the jaw, the tongue, and the velum, or soft palate, which is located at the back of the roof of the mouth and can be referred to simplistically as the *throat*. These articulators can be divided into *external settings* (the lips and the jaw) and *internal settings* (the tongue and the velum). Table 1 shows the location of the articulators, the articulators, the potential settings for each articulator, and the settings for American English, respectively. The general AS descriptions for American English include a) relaxed lips (not protruding or rounded), b) relaxed and loosely closed jaw position, c) relaxed neck and throat, and d) centered tongue, slightly forward.

Since AS is language-specific, learners’ articulatory settings will naturally be influenced by the settings used in their L1. Consequently, AS-related issues (a) cause L1 cross-linguistic transfer, (b) impede effective production accuracy of vowels and consonants, and (c) frustrate learners who are completely unaware of its influence –including what to change and how to change it. Given these challenges, the rationale for the teaching and learning of AS includes its potential to reduce overall L1 phonetic transfer, increase effectiveness and efficiency in the process of learning L2 sounds, and minimize learner frustration.

Table 1

Introduction of Articulatory Settings

² See Sardegna & McGregor (2013) on *Scaffolding students’ self-regulated efforts for effective pronunciation practice*.

Location	Articulators	Potential Settings	English AS
External	Lips	protruding/spread; rounded/unrounded	relaxed (i.e., not protruding, not spread, not rounded)
	Jaw	open/closed; tense/relaxed	(Loosely) closed; relaxed
Internal	Tongue	height-high/mid/low; forwardness/backness; tip/blade-tense/lax;	mid/central; a bit forward; lax;
	Throat (velum)	tense/relaxed; closed/open	relaxed; open

What to expect and how to assess. To use AS in pronunciation instruction, a comparison must be made between the settings of the languages involved in order to identify the relative differences in the settings of the articulators. For example, Danish learners of English should be advised that in English, there is less lip activity and a more relaxed jaw than in Danish, and the tongue tip/blade is a bit more tense (Collins & Mees, 1998). Descriptions for learners of different L1s will naturally differ. For example, a native Mandarin speaker learning English will need different setting adjustments from those of a native French speaker learning English. Teachers can expect some common articulator tendencies for the same L1s although there might be slight individual differences.

Teachers need to look for the internal and external setting of their L2 learners' production to identify the L1's AS influence. Obviously, the external settings of the lips and jaw are easier to observe directly and describe. In general, the questions for teachers to keep in mind about AS are: What are the articulators doing and how does that compare with what they are supposed to be doing? To begin observing AS and assessing the challenges it imposes, teachers can keep the following issues in mind. First, look at the students' general lip position: Are the lips protruding, spread, or rounded? Next, consider the jaw position: How open or closed is the jaw, and does it seem tense or relaxed? For the internal settings, the teacher will have to develop an ear for the influences of tongue and throat positions. To identify tongue-setting accuracy, this is like listening for tongue positions to identify vowel accuracy. For example, the position difference between /a/ and /ə/ relates to tongue height (and possibly backness/forwardness). The tongue setting includes tongue parts (tip/blade, middle, back (root)), as well as positions and tenseness³. The velum presents a similar challenge. The instructor will have to consider the neck/throat area. Does the area seem tense, and do sounds seem to come from the back, middle, or front of the mouth? Do sounds seem to come from the throat? Do they sound hollow? Answers to these questions will indicate settings related to the velum (neck/throat area).

In summary, languages differ in their articulatory settings--that is, "the overall manner in which the speech organs are held which underlies articulatory movements superimposed on them" (Collins & Mees, 1998, p. 415). Understanding AS will help teachers provide fundamental instruction and trouble-shoot challenging pronunciation difficulties in which the AS of the L1

³ See Messum & Young (2017) article titled *Bringing the English Articulatory Setting into the classroom: (1) the tongue* for more thorough description of the tongue.

influences the L2 production accuracy.

How to Facilitate AS training in the Classroom

Preliminaries. Before introducing AS, teachers are encouraged to consider the following.

Description:	This activity draws students' attention to the external and internal articulators of American English.
Tip:	Use a Tic Tac to shift students to sensing-mode; create an experience for seeing and feeling the difference between students' L1 and English AS.
Level:	Articulatory settings will be most appropriate for low-intermediate to advanced level learners.
Materials:	Tic Tacs, cell phone cameras (in selfie-mode) or mirrors, a checklist or comparison table (See Tables 2 & 3).
Prerequisites:	Students will need to be familiar with the following vocabulary: lips, jaw, tongue, throat (visual aids are recommended, especially for lower-level students); notice, watch, feel; tense, relaxed, open/closed, forward/back, middle/center, open/closed.

Introducing AS in the Classroom. The concept of articulatory settings can be introduced in a number of ways. For example, the teacher can use a computer analogy, explaining that every language has “*default settings*.” For lower-level students, the teacher might draw the foundation or frame of a house or use a sports analogy of the form in shooting a basketball. Alternatively,

Part 1: Directions to Students

1. Everyone take a Tic Tac. (Don't chew it!)
2. Prepare to look in your cell phone camera (or use a mirror) to watch your production.
3. Put the Tic Tac in your mouth on the middle of your tongue.
4. Slowly open your mouth and say “uh” (/ə/).

Part 2: Directions for Teacher

5. Listen to students' production of the schwa and advise on accuracy. Tongue height and forwardness/backwardness are common problems. Lip rounding or jaw opening or width may need
6. Next, use Table 3 noticing question prompts to direct students' attention to articulators.
7. Ask students to share what they notice (see and feel) is similar or different about the settings for each articulator (lip, jaw, tongue, throat).
8. Based on observations, make recommendations on what adjustments would improve students' production.

teachers can start by asking students what Americans say when they pause or hesitate, (Uh/Umm...) and contrast that with what the students say in their first language when they pause or hesitate to speak. Making a comparison of these neutral vowels can begin raising awareness that a fundamental difference (even if subtle) does indeed exist.

Instruction for the Tic Tac Trick. The initial learning objectives of the Tic Tac trick are to raise student awareness of articulatory settings and allow students to discover the American English articulatory settings.

For the Tic Tac trick to be most effective, the instructor will need to assist students by assessing the settings of the articulators and then convey feedback as needed in terms of what to change. In the next section, a comparison activity is described.

Table 2

Noticing Questions for Tic Tac Trick

✓	Articulators	Noticing Questions	American English Settings	What do I need to change?
	Lips	What do you notice about the lips? Are they sticking out/rounded?	Relaxed	
	Jaw	Is the jaw tense or relaxed? Does it seem more open or closed in the back?	closed; relaxed	
	Tongue	Where is your tongue-is it high/low; forward/back; tense or relaxed?	mid/central; a bit forward; tip - relaxed	
	Throat	Is your throat relaxed or tense?	relaxed; open	

Comparison & Contrast of English with Students' L1 Language(s). It is extremely important to keep in mind that AS is actually a relative concept. In other words, students will benefit most when they recognize the fundamental similarities and/or difference in the positions of the articulators between English and their native language. To highlight the fact that AS exists or to create a simple comparative assessment task, ask students to video record (cell phone in selfie-mode) themselves saying a few words or short phrases in their first language and then saying the English equivalent. Next, ask them to play and compare the two recordings with sound on and off to notice the similarities and differences in their articulators. The teacher will want to follow the advice in the above section on what to expect and how to assess. If a student's L1 and English AS appears similar, the teacher will then need to identify whether the student is simply using L1 settings to produce English or if the settings are, in fact, similar. Table 3 provides a comparison guide for teachers and students to use.

Table 3

Comparison Chart for Students L1 versus American English AS

Location	Articulators	Potential Settings	Observations for L1/other language	Observations for English
External	Lips	Protruding/spread; rounded/unrounded		relaxed
	Jaw	Open/closed; tense/relax		Closed; relaxed
Internal	Tongue	Height-high/mid/low; flat/hollowed/narrow; Forward/Back; Tip/blade-tense/lax		mid/central; a bit forward
	Throat	Tense/relax; closed/open		Relaxed; open

CONCLUDING REMARKS

Given the long history of recognizing language-specific settings and the potential in providing fundamental articulatory positions, AS offers teachers and students a secret to more effective and efficient pronunciation teaching and learning. With easy access to video recording, external settings can easily be captured and identified. For internal settings, the Tic Tac trick offers a quick, easy, and inexpensive technique to draw learners into a sensing mode to raise awareness of the tongue's many potential positions. The Tic Tac trick technique is offered to teachers in the hope that they will add it to their pronunciation teaching toolbox and improve the efficiency of pronunciation training.

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