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## **TEACHING TIP: THE VOWEL ELEVATOR: A VISUAL-KINESTHETIC WAY TO EXPAND THE VOWEL SPACE**

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The concept of the vowel space can be difficult to envision for ELLs, teachers -in-training, and even students of linguistics. The English vowel system is a particular challenge for learners, partly due to the precise target areas required for a system with five levels of vowel height. Teachers can help students with this challenge by using the metaphor of the Vowel Elevator, a visual-auditory-kinesthetic method of pronunciation practice that helps students comprehend and expand their vowel space using movement, sight, and sound, while keeping the whole system in the basic organization of high-mid-low and front-central-back articulation. The mouth is represented as a building with elevators that move between stories – with different languages having different numbers of stories– and learners practice the movements with simple hand gestures that accompany their tongue movements as they produce the sounds and view images of the elevator stopping at particular floors. Learners can visualize the vowel space, move around in it more accurately, and attach sound associations to the movements.

### **The challenge of understanding the vowel space**

Language learners, teachers-in-training, and students of linguistics often find it difficult to understand the concept of the vowel space. In one introductory linguistics textbook (Fromkin, Rodman & Hyams 2003), the authors reassure the learner with the following words: “You may not understand at first what we mean by ‘front,’ ‘back,’ ‘high,’ and ‘low’ vowels, but we encourage you to persist. It will come” (p. 252). In comparison, the characteristics that distinguish most consonant sounds – voicing, place and manner of articulation - are more straightforward to describe, and suprasegmentals are often defined by simple binary parameters, e.g., stressed-unstressed; higher pitch-lower pitch; longer vowel-shorter vowel. The English vowel system in particular is also a challenge for learners due to the precise target areas required for a system with five levels of vowel height.

### **Conceptualizing tools for teaching the vowel space**

Various conceptualizing tools exist for teaching or describing the vowel space, including the vowel triangle, haptic clockface movements, and Color Vowel® approach. The vowel triangle or quadrilateral, commonly presented in introductory linguistics and foreign language textbooks, is a visual mapping of vowel symbols on a two-dimensional space that represents either the oral cavity or acoustic correlates. Approaching the vowel space concept quite differently, the creators of haptic-integrated pronunciation instruction use the clock face metaphor, whereby learners move their arms to the positions of analog numbers correlated with particular vowel sounds as they say words containing those sounds (Acton, Baker, Teaman & Burri 2012). The

Color Vowel® approach offers teachers and learners a visual-aural method of associating vowel sounds with assonant words for particular colors (Taylor & Thompson 1999, 2015).

I would like to contribute to this small kit of tools the concept of the Vowel Elevator, which uses metaphor, movement, and imagery to help learners visualize the vowel space, move around in it more accurately, and attach sound associations to the movements. In this metaphor, the mouth is presented as a building with elevators that move between stories, with different languages having different numbers of stories. Learners view images of the elevator stopping at particular floors and practice the movements with simple hand gestures that accompany their tongue movements as they produce the sounds. Thus, along with the two senses usually employed in learning to make sounds (hearing and proprioception, or the sense of body position), the multisensory channels of vision, kinesthesia, and touch are added in order to enhance learning by strengthening memory formation (Shams & Seitz 2008).

### **The Vowel Elevator in practice: the American English Vowel System**

To introduce the vowel space in an ESL classroom, students are given an illustrated slide show that presents the following ideas:

1. *(Image of skyline with skyscrapers in different shapes)* Languages are different buildings.
2. *(Image of hand pushing button on 5-floor elevator keypad)* The English vowel building has five stories.
3. *(Image of three-floor elevator keypad)* Other languages have fewer.
4. *(Image of three-story house aligned with image of Spanish vowel triangle)* Japanese and Spanish language buildings have three floors.
5. *(Image of tall two-story house aligned with image of Arabic vowel triangle)* The Arabic language is a two-story building.
6. *(Image of five-story house aligned with image of English vowel quadrilateral)* The English vowel building has five floors.
7. *(Image of a building with three elevators)* English has a front elevator, a back elevator, and a service elevator in the middle.
8. *(Image of hallway with open elevator door)* Let's get on the front elevator and ride to the top.

At that point in the slide show, students are introduced to the continuum of American English front vowels and back vowels by 'going up and down the elevators.' While students view a photo of elevator buttons with the up arrow illuminated, they are directed to say "ah---ee," in order to become aware of the tongue movement from the 'bottom floor' to the 'top floor.' Then they are told to move their hand from a low position to a higher one as they articulate "ah---ee" once again. As they are shown a photo of elevator buttons with the down arrow illuminated, they move their hand back down and say "ee---ah."

Continuing the metaphor, students then 'stop at some floors on the way to the bottom' and are introduced to the five front vowels, as shown in the following slides:

**The front elevator has these five vowels:**


5<sup>th</sup> floor /i/ as in "key, beat"  
 4<sup>th</sup> floor /ɪ/ as in "him, bit"  
 3<sup>rd</sup> floor /eɪ/ as in "okay, bait"  
 2<sup>nd</sup> floor /ɛ/ as in "them, bet"  
 1<sup>st</sup> floor /æ/ as in "hand, bat"

Listen to these five words:  
*beat – bit – bait – bet – bat*

Did you hear the vowel elevator stop at each floor?

**Let's take the English elevator down one floor from the top.**

In English, the fifth floor is /i/ (as in "key").  
 Say these words:  
 team  
 leave  
 sheep  
 heat




In English, the fourth floor is /ɪ/ (as in "him").  
 Say these words:  
 Tim  
 live  
 ship  
 hit

Make your tongue-elevator go down one floor...

- Move your hand as we take the elevator from the fifth floor to the fourth floor. Say the vowels as we travel:  
 /i/ ..... /ɪ/

Make your tongue-elevator go down one floor...

- Do it again: /i/ ..... /ɪ/.
- One more time: /i/ ..... /ɪ/




**Elevator Game**

Find a partner. Say one of the words below. Can your partner guess which floor you're on?

<b>5</b>	<b>4</b>
• team	Tim
• sheep	ship
• leave	live
• heat	hit

**Let's take the English elevator from the 4th floor to the 2nd floor.**

In English, the fourth floor is /ɪ/ (as in "him").  
 Say these words:  
 bid  
 disk  
 middle  
 lift




In English, the second floor is /ɛ/ (as in "them").  
 Say these words:  
 bed  
 desk  
 medal  
 left

Make your tongue-elevator go down two floors...

Find the sound /ɪ/ in your mouth (think "him").  
 Now, move your hand as we take the elevator from the 4th floor to the 2<sup>nd</sup> floor.  
 Say the vowels as we travel:  
 /ɪ/ ..... /ɛ/


Do it again: /ɪ/ ..... /ɛ/

Make your tongue-elevator go down two floors...




### Elevator Game

Find a partner. Say one of the words below. Can your partner guess which floor you're on?



• middle



• medal

• bit

• bet

• tin

• ten


• lift

• left

### Let's take the English elevator from the 2<sup>nd</sup> floor to the 1<sup>st</sup> floor.

In English, the second floor is /ɛ/ (as in "them").  
Say these words:


- said
- bet
- ten
- left



In English, the first floor is /æ/ (as in "hand").  
Say these words:

- sad
- bat
- tan
- laughed

Make your tongue-elevator go down one floor...





Move your hand as we take the elevator from the 2<sup>nd</sup> floor to the 1<sup>st</sup> floor. Say the vowels as we travel: /ɛ/ ..... /æ/

Do it again: /ɛ/ ..... /æ/

One more time: /ɛ/ ..... /æ/


Make your tongue-elevator go down one floor...






### Elevator Game

Find a partner. Say one of the words below. Can your partner guess which floor you're on?



• said



• sad

• bet

• bat

• ten

• tan


• left

• laughed

The example slides above are used to demonstrate and practice front vowels, and include vertical tongue movement, accompanying hand movement, and 'elevator games' for pair or group practice. A similar sequence of slides is shown in a subsequent class period for the back vowels. During this sequence, it is pointed out that when taking the back elevator, most people in the U.S. Midwest and West skip the 2<sup>nd</sup> floor and land on the 1<sup>st</sup> floor instead. This is a convenient way to explain the *cot-caught* merger, in other words the regional falling-together of low-back /a/ and mid-back /ɔ/.

When it comes to English schwa, the elevator metaphor extends to include a central, express elevator that goes directly to a very popular floor that is 'right in the middle of everything.' Students can then play an elevator game in which they identify which elevator the speaker is on:

When you enter the English building, you have to choose the right elevator.




- /æ/ is the front elevator.
- /ə/ is the central elevator.
- /ɑ/ is the back elevator.

### Front, central, or back?

- Pick a partner. Say a word. Can your partner guess which elevator you are on?

Front	Central	Back
lack	luck	lock
Dan	done	Don
cap	cup	cop
bag	bug	bog
hat	hut	hot

Another feature of English vowels that can be illustrated and practiced using the elevator metaphor is the diphthongization of mid-front [ey] and mid-back [ow]; the off-glide is compared to the jiggle of an elevator that always bounces on the third floor:

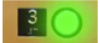


The elevators bounce a little on the third floor.

Listen to the front elevator: /ey/  
Listen to the back elevator: /ow/

Can you hear the bounce?

Now try it:  
Say /ey/ and move your hand on the bounce.  
Say /ow/ and move your hand on the bounce.



Say these third-floor words.  
Make sure the elevator bounces!  
Move your hand as the sound bounces upward.

FRONT ELEVATOR	BACK ELEVATOR
gray	snow
place	rose
eight	boat
remain	phone

### Final thoughts: extended metaphors as teaching tools

Metaphors are common in language description and teaching. For illustrating verb tenses, time is a line; in phonetics, some consonants are glides or liquids; pitch is high or low; intonation rises and falls; in writing, a paragraph is often described as a sandwich. The vowel space is real, however. Vowel space descriptions - high, mid, low, front, central, back - are literal, not metaphorical, but it is a challenge for learners that these parameters basically cannot be seen and are not easy to sense with proprioception. No metaphor is a perfect representation of reality, but the Vowel Elevator metaphor maps well onto reality: The oral cavity is a building; the tongue is a series of elevators; the building's stories are vowel heights. English has a front elevator, a back elevator, and an express elevator in the middle that goes directly to the very important and popular "schwa" area of the building. The front and back elevators bounce a little when they stop on the third floor (a reference to diphthongized mid vowels), and when taking the back elevator, most people in the U.S. Midwest and West skip the 2<sup>nd</sup> floor, and head to the 1<sup>st</sup> floor instead (a reference to the *cot-caught* merger).

Taking this metaphor and running with it, learners can compare the L2 vowel building with that of their L1. They experiment with new mouth-shapes and practice arriving at various floors of

the vowel building. They work with a partner to produce and identify vowel sounds with the activity “*Guess which floor I’m on.*” Students respond to the combination of movement, sound, and visual imagery, which helps keep them engaged and piques learners’ curiosity about the sound system of the language that they are learning.

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Nancy Elliott teaches ESL at the University of Oregon, and has also taught languages and/or linguistics at the University of Kansas, Universität Heidelberg, Indiana University, and Southern Oregon University. She has a Ph.D. in linguistics from Indiana University, where she specialized in English dialectology, sociolinguistics, and the history of English pronunciation. Her research interests include English rhoticity, accent in the media, and listener judgements of comprehensibility and intelligibility.

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