



ISSN 2313-7703

# SPEAK OUT!

JOURNAL OF THE IATEFL PRONUNCIATION SPECIAL INTEREST GROUP

September 2019, issue 61

- 7 **The music of English connected speech: How and why singing affects EFL learners' pronunciation**  
Giedrė Balčytytė-Kurtinienė
- 18 **Teaching the underlying systems of English pronunciation as motor skills**  
Piers Messum and Roslyn Young
- 32 **Hotfixing learners' listening with quick decoding activities**  
Olya Sergeeva
- 44 **Review of *English After RP – Standard British Pronunciation Today***  
Beata Walesiak
- 48 **Review of *Intelligibility, Oral Communication and the Teaching of Pronunciation***  
Stella Palavecino
- 52 **Upcoming Event information**  
'The road to Pron-tegration: tips, tricks and techniques to expand your pronunciation practice'

Price £5.00

Free for PronSIG members

[www.iatefl.org](http://www.iatefl.org)

# Teaching the underlying systems of English pronunciation as motor skills

Piers Messum and Roslyn Young

*There is a contradiction within present day pronunciation teaching. On the one hand, we are told that teachers avoid teaching pronunciation because they feel they lack the knowledge, training and skills needed (e.g. Couper, 2016). On the other, the usual classroom practices for teaching pronunciation often treat it as an imitative task, and thus require little more of teachers than the ability to provide models for students to listen to and then to copy. What could be easier? We believe that teachers really avoid teaching pronunciation for a different reason: because the methodologies they are trained to use produce such poor results.*

Over the last 25 years, we have created materials and techniques which support the teaching of pronunciation not as an imitative task but as a motor skill. We have written about these in articles describing particular aspects of what we call the Articulatory Approach (AA)<sup>1</sup>. We distinguish this from all 'Listen First' approaches and also from conventional 'articulatory instruction'.

In this article, we describe how the AA addresses two of the fundamental challenges in learning L2 pronunciation: learning a new use of oneself and changing one's concepts. We illustrate our account with descriptions of how the underlying systems of English pronunciation can be taught this way.

## Production – learning a new use of oneself

From what textbooks—general and specialist alike—advise teachers to do for pronunciation, it seems that 'Listen First' approaches suppose that, once a student can hear (i.e. identify and/or discriminate) either a new sound or some new feature of L2 pronunciation, then learning to produce it happens unproblematically. This is absolutely not our experience of learners. For a student to act on any disparity between what he produces and the model he can now 'hear', he must discover how to modify his production. There are several reasons why this latter task is not trivial. For example,

---

<sup>1</sup> All these articles are available at <https://www.pronunciationscience.com/downloads/>

- i. The motor routines that produce L1 sounds are highly automatised. Most learners are insensitive to their articulators and are unaware of the actions they make to produce sounds. They therefore have little capacity to consciously vary their production and hence to escape the 'grip' of L1 (Underhill, 2013).
- ii. The learner cannot see what L2 speakers do with their articulators; he can only hear the result.
- iii. The learner does not hear his own output as others do. For one thing, he hears it mixed in with bone-conducted sound. More importantly, he may not be 'hearing' his vocal output at all but instead may experience what he thinks he is saying<sup>2</sup> rather than what he is actually producing. Thus, he cannot evaluate his own production against the model he can now 'hear'.

So even when listening exercises have been 'successful', there is still a great deal of work to be done on the part of the student. There is still a need for coaching the motor skill of production.

## Concept changes

Fraser (2006a) argues that an important part of pronunciation teaching is changing students' concepts. She explains (p.60) that, 'A concept embraces a collection of aspects of reality that seem "the same" to a particular subject in a particular context, despite having often enormous physical differences'.

She points out (Ibid., p.58) that, 'Concepts are like a lens, or a pair of glasses, through which a person views the world. They greatly affect the person's view of reality, but when people use concepts, they look through them rather than at them, and are generally unaware of them'. In pronunciation, the canonical example of the power of concepts is the way that the L2 sound system is viewed through an L1 lens by most learners, but other examples would include the concept of what lends prominence to a syllable in different languages and the concept of what constitutes a syllable (that a syllable must contain a properly formed vowel, for example).

We agree with Fraser on the importance of concept change in teaching pronunciation, and on her general point that, 'People do not learn concepts instantly, just from being shown an example or being given information; they need to use them and experience them through trial and error before they really understand them' (2001, p.21).

---

<sup>2</sup> Technically, the output of his forward model of speech production, which is tuned for L1 not L2.

But we disagree with her inasmuch as she proposes that conceptual change should be affected through listening exercises and must precede production practice for this to be effective. We explain why below.

Incidentally, she and we also agree that, ‘The key to success with practice of spontaneous speech is for the teacher to provide useful feedback on errors as they occur, followed by thorough practice—much like a coach provides for a student of sport or dance. As coaches know, the difficulty is to find exactly the right feedback to help *students think about what they are doing* in a way that can affect their behaviour’ Fraser (2006b, p.89).

Note that when we consider *students thinking about what they are doing*, we are conceiving of *thinking* not as the intellectual activity but in the way described by Gilbert Ryle as ‘engaged problem solving’ and ‘self-teaching’ (for a good summary of which, see Habgood-Coote (2019)). Ryle gives the example of a mountaineer who finds himself in conditions where it is too difficult for him to walk automatically: he is then both walking and teaching himself how to walk this particular path. His engagement with the task is similar to that required by a learner of pronunciation.

## Two birds with one stone

In our experience, the best way of changing a pronunciation concept is to move the problem outside the linguistic domain. Instead, we work with students in the domain of voluntary action: we present a problem that would conventionally be seen as a challenge in differentiating sounds, for example, as a challenge in producing different gestures. We coach students to develop new motor gestures which produce aural effects—noises—that we ask them to observe and explore. At this point we as the teacher connect both gesture and noise with an L2 target to inform our feedback to the class, but we do not make this connection for the learners.

For example, we might ask students to do any of the following and to attend to the characteristics of the noises that emerge as a result:

1. *Assuming that students know how to make some kind of [k] ... Do this with a very slow, friction-laden release. Do it in different ways and listen to what noises emerge.*
2. Start with the tongue position for some kind of [i] and then extend your lips forward in a strong pout. Listen to the noise you are making. Try making small and large variations in your lip and tongue positions and, again, note the effect on the noise you are making.

3. Snort through your nose (like a horse); locate the muscles that are forcing the air out and note the gestures these muscles make. Now, whisper the numbers from 1 to 5 forcefully ('stage whisper'), repeating the gestures you noted on each number. Lastly, continue to make the gestures while counting from 1 to 5 in a normal voice. What do you feel? What do you hear?<sup>3</sup>

Once such a set of gestures has been well practised and the aural consequences have been carefully observed, any such pairing comes into independent existence as a concept for the students. They can produce the noise at will and it exists outside of their L1 'sieve' (Trubetzkoy, 1939:51).<sup>4</sup>

The experience the students have given themselves is exactly the kind of evidence that their minds need to create a new concept, linked in production and perception, to which we can now give a linguistic significance within L2. Fraser (2006b:83) explains the advantages of this: 'Having a concept of something allows you to hold the experience of it in your mind after it is over, to go beyond the immediate experience, to understand its significance and to make predictions about it'.

It is obvious that such motor coaching also addresses the student's need for production, described above. Thus, the two preconditions for successful development in pronunciation are addressed in a single step when pronunciation is worked on as a motor skill.

## The Articulatory Approach

Gattegno was the first language educator we know of who saw that pronunciation is best taught as a motor skill rather than as an imitative task. The example he set as a teacher clearly distinguishes what we now call the Articulatory Approach from what people generally understand to be articulatory instruction. The latter involves giving students information about how articulators work and what they do to create particular sounds. Gattegno never did any of this. He knew that learning new motor skills requires the presence of the student to his actions, motor experimentation, and paying attention to the results of actions and to any feedback the environment can supply. In the case of a classroom, the environmental feedback can come from the expert source that is the teacher. None of these things require the transfer of propositional knowledge, as Gattegno conclusively demonstrated by being entirely silent when he taught languages.

---

<sup>3</sup> The first two gestures in these examples are useful for creating a French /r/ and /y/ respectively. The third is useful for English stress.

<sup>4</sup> Note that one can easily move in the opposite direction, from a sound (with linguistic significance) to a noise, by extending an L1 vowel indefinitely. After perhaps 10 seconds the sound will denature and take on a quite different character: that of the noise that the sound is based upon.

Although Gattegno addressed other aspects of pronunciation in class, his published materials largely concern the teaching of sounds. We have been extending his insights into all areas of pronunciation, and in this article we now deal with teaching stress, reduction and the articulatory setting of English.

It is worth saying again that the Articulatory Approach is not articulatory instruction. An analogous distinction can be found in the way that Catford taught phonetics not as theory, physiology or acoustics (Catford, 2001, p.2) but as practical skills based upon 'deep, internally experienced awareness of what is going on within the vocal tract' leading to control of 'the postures and movements of organs that produce the sounds of speech'.

Catford appreciated that descriptions produce 'a merely intellectual comprehension', so he taught by means of 'experiments which readers are asked to carry out in their vocal tracts'. He aimed for his students to 'discover and to analyse the gestural aspect of speech ... and to bring it under conscious control'.

Catford was training phoneticians. Language teachers have more limited aims than his but the reasons he articulated for this approach apply equally to what we do.

## **Pronunciation should be treated differently**

When learning a language, grammar and vocabulary can be elaborated gradually, but all aspects of pronunciation are potentially needed for even the simplest sentence to be produced correctly. If they are not available then students will start to develop bad habits in their speech, and these are hard to change later. This is one reason why we start all our courses with time dedicated to the discovery and exploration of the systems that underlie English pronunciation. A second reason is that pronunciation, being primarily a motor skill, develops best when there is a source of evaluation and high-quality feedback for the learner, so we want to allow the maximum time possible for the teacher to play this role.

In this initial part of a course, we delay working on sounds *per se* until the underlying systems of English pronunciation have been introduced. If we ask students to graft the articulatory gestures for new English sounds onto their L1 prosodic system and articulatory setting, we are wasting their time.

After this dedicated work, learners can hone their pronunciation with every utterance they make if the teacher maintains good pronunciation as a focus.

## **In the classroom - starting with a framework**

From the start, we want to introduce our students to ways of working on themselves that are appropriate for learning pronunciation as a motor skill: being present to one's articulators, consciously trying new things, attending closely to the results, and so on. We also want to introduce three underlying systems of English pronunciation: stress, reduction and the English Articulatory Setting.

We name the progression of ideas and exercises that we use to accomplish this a 'Framework'. Its components are, in order:

1. Sensitisation to the speech articulators.
2. Sensitisation to speech breathing.
3. Vowel reduction as either open transitions or the minimal sound necessary to create a syllable.
4. Sentence stress as 'pushes' in the respiratory system.
5. /p/ aspiration as the result of pulsatile speech breathing combined with relaxed lips.
6. The Articulatory Setting of the English tongue.
7. /t/ aspiration as the result of pulsatile speech breathing combined with a relaxed tongue tip and the English Articulatory Setting.

Where this work needs sounds or sequences of sounds, we generally use the 'long' vowels /i:/ /ɜ:/ /u:/ /ɔ:/ and /ɑ:/ (because students can usually approximate them), a few consonants (/s/ /m/ /n/ /k/ and /f/), and then schwa, /p/ and /t/ when we reach them (Young, 2015b).

## The components of the framework

The aim of the exercises below is for students to become more aware of what they have to do with themselves to pronounce English, and for them to gain increasing control of the process. Here, we can only describe a few exercises, but in January each year we run the *Teaching Pronunciation Differently* session for TESOL's Electronic Village Online (EVO), where we present many more.

### 1 Sensitisation to the speech articulators

Very few students come to a course with enough sensitivity to their articulators to consciously make different gestures from those they use for L1, and to control new gestures so that they are repeatable at will.

We use a number of exercises to bring students' attention to the actions that underlie speech. For example, at the start of every course we will get them to explore the shape of their mouth and to identify key landmarks within it.

Speaking in the students' L1 if possible<sup>5</sup>, we might begin like this:

“Put the tip of your tongue on the cutting edge of your upper front teeth ... Now run it upwards ... Can you feel where the teeth meet the gums? ... Run your tongue back and forth over the place where they meet ... Now move your tongue back a little further... Can you feel a bump? [The alveolar ridge] ... What direction does the roof of your mouth take now?”, etc. (Young, 2015a)

We keep the students present to their mouths for several minutes. Later in the course, whenever we ask them to feel what they are doing, they know they are being asked to be present and watchful. This exercise also sets the tone for the rest of the course: the students will be exploring.

## 2 Sensitisation to speech breathing

Speech is produced on a rising column of lightly pressurized air. English pronunciation is characterised by its use of stress as a mechanism for syllable prominence and children implement this by a pulsatile style of expiratory breath control: pressure is generated in a series of ‘pushes’, felt most conveniently in the muscles of the abdomen (those covering the belly).

When a child is learning to speak English, he starts to use stress as a way of making certain syllables more prominent at around age 2. Because of the particular physiology of his chest wall at that age (which lasts until he is around 7), this requires him to put extra effort into saying these stressed syllables, and the extra effort involved is greater respiratory drive. However, as his physiology changes and he becomes a more expert speaker, the degree of effort he makes for a routine sentence stress will become almost imperceptible (Messum, 2007).

If we are to give older students an authentic mechanism for stress, then we feel we should take them through the same learning trajectory as a native speaker child, albeit with adult physiologies that cannot replicate the child's experience faithfully. If not, then we find French or Japanese speakers, for example, using the prominence mechanism that is appropriate for their L1 to create English stressed syllables, and, while this helps them to get their message across, it limits the excellence with which they will ever speak English.

---

<sup>5</sup> If the class doesn't have a common L1, another way of doing this work is to use a diagram of the midsagittal section of the head on the board. We draw the students' attention around their mouths by slowly passing a pointer along a trajectory we want them to follow with the tip of their tongues. This can be done silently.



Furthermore, the pulsatile style of speech breathing developed by a child—making extra respiratory system effort to support stressed syllables—conditions and underpins much of the rest of English pronunciation, leading to aspiration on /p/ /t/ and /k/ in some contexts, the classes of tense and lax vowels, etc. If our students are to have authentic mechanisms for these aspects of English, then it is best if they ground them in learning to use their respiratory systems in an authentically English way.

As a first step to learning the English style of speech breathing, students have to become aware of the muscles of their respiratory system and to establish conscious control over them to create pushes of air. For this, we ask our students to snort out through their noses, mouths closed, as horses do. This activity engages the abdominal muscles, as does pretending to blow out a candle or coughing. Such an abdominal push is a voluntary action that students can deploy for creating stressed syllables in English. At first the action is exaggerated, but once this speech breathing gesture is established, it can gradually become automatic and imperceptible in normal speech, as it is in native speakers.

We use the image of a toothpaste tube being squeezed at the bottom and the toothpaste coming out at the top to give students a sense of the mechanics of speech breathing.

### 3 Vowel reduction

Almost all students come to class with the concept that a syllable is made up of a vowel and perhaps one or more consonants. This concept is deeply ingrained and usually implicit. It does not allow for what happens in English which is unusual because it makes extensive use of syllables which, from a production point of view, contain no vowel at all.

In transcription exercises, most vowel sounds that are not full vowels are categorised as schwa. However, Catford (1985; 2001, pp. 111–116) pointed out that there are two significantly different types of schwa:

- a minimal vowel-type sound, as in the last syllable of *comma*,
- an 'open transition', as in the first syllable of *today*.

Open transitions occur between two consonants. The articulation of the first consonant is completed before that of the second begins. An incidental sound may appear in the space opened up, but it is not an intentionally articulated vowel. Catford contrasted open transitions between two consonants with 'close' transitions

in which the articulation of the two consonants overlaps: *terrain* and *polite* (open) vs. *train* and *plight* (close), for example.

Conventionally, any sound that is transcribed as a schwa is taught as if it were a vowel. The result is notoriously problematic: the teacher ends up emphasising the schwa so that students can 'hear' it, and the students then emphasise it to make sure it sounds 'right'. The essence of reduction is completely lost. Some students end up using a shortish [ɜ]-type vowel for schwa, but most others continue to use the vowel from their L1 inventory that matches the spelling they see.

Taking an articulatory approach, we instead implement Catford's perspective on vowel reduction by making use of the universal phenomenon of stuttering. This makes it hugely easier for students of English to master 'schwa' sounds.

When a stutterer produces 'p-p-person', nobody suggests that a vowel is being produced between each of the successive /p/ articulations. Yet this sequence of actions is the one that native speakers use to produce a phrase such as 'A piece of paper per person'. Here, the underlined sequence would conventionally be analysed as /peipəpəpɜːsən/ but we would write /peip.p.pɜːs.n/ using dots, where each dot represents an open transition/stutter.

The concept of the open transition is very liberating for students: it enables them to discover what native speakers actually do to produce the language. We work on this using back-chaining applied to phrases that are very familiar. For example, /tuː/, /t.t.tuː/, /kɔː/, /əkɔː/, /əkɔː.t.t.tuː/. It is always a revelation when students discover that this is how English speakers actually produce the phrase *a quarter to two* and that they themselves are capable of producing it so authentically, so easily.

They now cannot deny that English has many syllables which, from a production point of view, do not contain vowels. Their concept of a syllable must change, because they themselves have produced the undeniable evidence that syllables like this exist.

Once we have established the concept of stuttering as what English speakers do for some reduced vowels, we extend the notion to 'stuttering' from one consonant to a different one, as in the examples of open transitions we gave above and others such as *tea for two* /tiːf.tuː/ and *chalk and cheese* /tʃɔːk.ntʃiːz/.

Teacher talk and intellectual discussion do not shift deeply ingrained concepts. But an action that is under voluntary control and can be repeated at will, whose consequences can be heard and examined, is the kind of demonstration by yourself,

to yourself, with you as the judge, that can actually change a concept; through awarenesses and know-how, not through knowledge transfer.

#### 4 Sentence stress as ‘pushes’ in the respiratory system

Using the ‘long’ vowels and a few consonants, we start to create words and phrases on a phonemic chart which quickly include both stressed and reduced syllables: /ti:m/ /sti:m/ /sti:mə/ /ə sti:mə/; /kɑ:t/ /kɑ:tə/ /ə kɑ:tə/; /ə fɑ:mə/ /ə fɑ:məz kɑ:t/, etc.

For the reasons given above, in section 2, we coach students to consciously produce one abdominal push for each stressed syllable. Any type-1 schwa sounds (those which are not open transitions) appear either on the run up to the push for the stressed syllable or on the remnants of the pressure that the push created. In this way, they are reduced naturally.

Again, because the students are creating stress with a voluntary gesture, they are giving themselves the experience they need to shift their concept of how syllable prominence is created. Teacher talk and intellectual discussion do not achieve this.

Neither do ‘Listen First’ approaches, for a reason well explained by the French didactician Georges Brousseau. Mason (2002:17), a mathematics educator, glosses the *tension didactique* of Brousseau as follows:

Didactic Tension: The more clearly and specifically the teacher indicates the behaviour sought from students, the more easily they can display that behaviour without generating it from understanding.

Applied to pronunciation, we believe that this captures an essential truth about ‘Listen First’ approaches: that by specifying the behaviour sought from students, we encourage them to generate it without an understanding of its source. As a result, no conceptual change takes place, and the work done in class exercises does not—cannot—appear in students’ spontaneous speech.

In contrast, the AA refrains from giving students any model of what the language ‘should’ sound like. Instead, it coaches them in the underlying systems of movement that generate the language, and encourages them to use these, to discover what the results are and, ultimately, to discover that the results are authentic.

#### 5 /p/ aspiration

From an articulatory point of view, there are two ways to release voiceless bilabial plosives: either by actively dropping the jaw to open the closure (as in most languages), or by relaxing the lips and allowing the closure to be blown open by the

build-up of air pressure behind it. Thus, taking an articulatory perspective, there is more to aspiration than a simple puff of air.

For /p/, the lips of English speakers are relaxed, notably more so than those, for example, of Dutch speakers (Collins & Mees, 2003, p.151). Together with pulsatile speech breathing, this seems to be the underlying cause for /p/ aspiration in English (Messum 2010). Pedagogically, it is certainly useful to view things this way.

We ask students to make their lips limp and loose, and show them how the air pressure created by a strong abdominal push will blow their lips apart. This creates a hyperarticulated aspirated /p/. Once students can integrate this gesture into single syllable words, we add syllables: [p<sup>h</sup>i:], [p<sup>h</sup>i:tə] [p<sup>h</sup>ɔ:tə] [p<sup>h</sup>i:tə p<sup>h</sup>ɔ:tə] and finally *Peter Porter was a poet*.

In itself, aspirated /p/ is a low priority in pronunciation, but it is a sound that is distinctively English and every student can consciously follow these instructions to create it. They know that they have made a difference to their pronunciation through careful control of their articulators. They can hear that they now sound like native speakers, they know exactly what they have done to achieve this (so they can do it again at will) and it is quite easy. This early work on /p/ aspiration, then, has value: students realise how to improve their pronunciation and are inspired by their own success.

## 6 The Articulatory Setting of the English tongue

To play a sport or musical instrument, one has to adopt a basic posture from which movements can then be economically and comfortably made. Contrast the basic body postures of people playing sports: fencing, hockey and boxing. Similarly, every language has a basic posture of the tongue, lips, jaw, etc., called its Articulatory Setting (AS) by Honikman (1964).

We introduce the English AS at this point. For a description of how we do this, see Messum and Young (2017).

## 7 /t/ aspiration

The aspiration of /t/ at the start of a stressed syllable (“Tiny Tim”) is the combined result of pulsatile speech breathing and two aspects of the English AS: the positioning of the tongue and the systemic relaxation of principal articulators.

For /t/, it is the tip of the tongue that is relaxed (for /p/, it was the lips). We ask students to consciously adopt the English AS by spreading the back of their tongue and feeling the sides touching the upper molars. They notice that in this position, it is

necessarily the tip of the tongue which touches the alveolar ridge for a /t/ closure. Such a closure is intrinsically weaker when made by the tip rather than the blade, but we ask students to weaken it further by consciously relaxing the tip. With these preliminaries, it is now easy for air pressure created by a strong abdominal push to blow the tongue tip off the alveolar ridge. This coordinated set of movements creates an English-like aspirated /t/ in contrast to how speakers of French, for example, typically produce a French-like /t/ by dropping the jaw to actively withdraw the blade of the tongue from the alveolar ridge.

Once students can aspirate initial stressed /t/ in single-syllable words, we begin to add syllables: [t<sup>h</sup>i:], [t<sup>h</sup>u:]; [t<sup>h</sup>i:tʃ], [t<sup>h</sup>i:tʃə], [t<sup>h</sup>i:tʃə t<sup>h</sup>ɔ:k]; etc. Then we combine /t/ aspiration with open transitions in the phrase *Tea for two and two for tea*, where both *for two* and *for tea* have to be 'stuttered': /f.t<sup>h</sup>u:/ /f.t<sup>h</sup>i:/.

Like aspirated /p/, aspirated /t/ is a low priority in itself. However, the production of [t<sup>h</sup>] integrates all the aspects of English pronunciation that have come before, including the AS. Working on it at this stage in the course brings the benefits that we described for the work on aspirated /p/ and two further ones. First, the students realise that they are entering a coherent system. Second, when they say *Tea for two and two for tea* so differently from how they said it previously, they are aware that they have escaped the grip of L1 and have moved into English.

## After the framework

### Sounds

Some sounds are used during the work on the Framework, but we work on the full set of English sounds properly only once the underlying systems of English pronunciation have been presented and practised. Thus, work on all individual sounds takes place in an L2 context, and all sounds are new articulations even if the phoneme exists in the students' L1 inventory.

We use the PronSci English Rectangle chart as our phonemic map. We gradually increase the number of sounds in play, making sure the students begin to develop a distinctive articulatory gesture for each one and giving them the chance to try these gestures out in various contexts. At this point we are not looking for perfection; we are happy as long as the students are out of the grip of L1.

### The Performance Piece

At this point, we often ask students to work on a short text, usually some verse, that it will be pleasant for them to say many times over. We call this a pronunciation

'performance piece'. The students use it as a way of practising the movements of pronunciation without the distraction of having to formulate and deliver normal speech. Because students get to know their piece so well, they can come to observe every movement of their tongue and other articulators while they are performing it.

At this point, our way of working has already shown students how to actively practise a piece rather than simply repeating it. When practising, a student makes himself present to different aspects of his pronunciation and then at some point brings them all together in a performance which will tell him what he now needs to revisit. Practice becomes mere repetition when a student stops bothering: stops being present to what he is doing and just speaks automatically.

## Conclusion

We believe that there are two principal goals for pronunciation teaching: (1) for students to develop a set of articulatory gestures that give an acoustic result that is highly comprehensible and as close to that of a native speaker as they desire, and (2) for them to develop correct and functioning concepts for L2 pronunciation.

With respect to the first, this means focusing their attention on what they are doing and what the results are; their actions then improve and become automatic with practice. In this work, what a native speaker sounds like is actually a distraction. The only sure way to keep students focused on their actions and the results is for the teacher to be the principal source of evaluation but to refrain from providing a model. This was Gattegno's fundamental insight.

With respect to the second, the most powerful tool for conceptual change in pronunciation is to transform a problem in 'sound' into a challenge within the motor space, where a way of producing a new noise under conscious control can be developed, away from the grip of L1 concepts. Then the new noise can be reconceived as a linguistic sound (or some other feature of pronunciation) in L2.

The Articulatory Approach coaches students in what has to be done to pronounce L2, and in so doing provides the experiences that promote conceptual change.

## References

- Catford, J. C. (1977). *Fundamental problems in phonetics*. Edinburgh University Press.
- Catford, J. C. (1985). 'Rest' and 'open transition' in a systemic phonology of English. In W. S. Greaves, & J. D. Benson (Eds.), *Systemic Perspectives on Discourse*. Normal NJ: Ablex.
- Catford, J. C. (2001). *A practical introduction to phonetics* (2nd ed.). OUP.

- Collins, B., & Mees, I. M. (2003). *The phonetics of English and Dutch*. Leiden: Brill.
- Couper, G. (2017). Teacher cognition of pronunciation teaching: teachers' concerns and issues. *TESOL Quarterly*, 51(4), 820–843.
- Fraser, H. (2001). *Teaching pronunciation: a handbook for teachers and trainers*. New South Wales: DETYA.
- Fraser, H. (2006a). Phonological concepts and concept formation. *International Journal of English Studies*, 6(2), 55–75.
- Fraser, H. (2006b). Helping teachers help students with pronunciation: A cognitive approach. *Prospect*, 21(1), 80–96.
- Habgood-Coote, J. (2019). Thinking on your feet. Retrieved 26 July 2019, from Aeon website: <https://aeon.co/essays/dont-just-do-it-think-it-too-on-learning-with-gilbert-ryle>
- Honikman, B. (1964). Articulatory settings. In D. Abercrombie (Ed.), *In Honour of Daniel Jones* (pp. 73–84). London: Longman.
- Mason, J. (2002). *Researching your own practice: the discipline of noticing*. London: Routledge Falmer.
- Messum, P. R. (2007). *The role of imitation in learning to pronounce* (PhD). UCL.
- Messum, P. R. (2010). Understanding and teaching the English articulatory setting. *Speak Out!* 43, 20–24.
- Trubetzkoy, N. (1939). *Principles of phonology*. Berkeley, CA: U of California Press.
- Underhill, A. (2013). Cinderella, integration and the pronunciation turn. *Speak Out!* 49, 4–8.
- Young, R. (2015a). *Working on pronunciation in English part 1: increasing students' sensitivity to their mouth*. Retrieved from <https://www.youtube.com/watch?v=J15-i8uKtDE>
- Young, R. (2015b). *Working on pronunciation in English part 2: The free vowels and a few consonants*. Retrieved from <https://www.youtube.com/watch?v=TjMz6wkV0w>

**Roslyn Young** trains teachers through Pronunciation Science Ltd ([www.pronsci.com](http://www.pronsci.com)). She has integrated work on pronunciation into all her teaching for more than 40 years.

**Email:** [roslynyoung@gmail.com](mailto:roslynyoung@gmail.com)

**Piers Messum** also works through PronSci. He is the Treasurer of PronSIG and has taught in the UK, France and Japan. He has a PhD in Phonetics from University College London.

**Email:** [p.messum@gmail.com](mailto:p.messum@gmail.com)