

Functional Phonetics Workbook

Third Edition

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Mary Lou Marsoun Cancio, MA, CCC-SLP
Sadanand Singh, PhD





5521 Ruffin Road
San Diego, CA 92123

e-mail: info@pluralpublishing.com
website: <http://www.pluralpublishing.com>

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Preface

The *Functional Phonetics Workbook* was designed to be used in several ways. It is a valuable classroom resource for instructors who teach an introductory phonetics course. It can be used, with the accompanying audio files, by individuals as they learn the International Phonetic Alphabet (IPA) who may not have access to formal instruction. The *Functional Phonetics Workbook* also provides a convenient review format for those who require a review of their phonetic transcription skills. For example, this might be a first-semester clinician who has not reviewed phonetics since taking their introductory class of communicative disorders courses. The student may find it a helpful review if they have been assigned an articulation or phonological process-disorder client.

The *Workbook* focuses on the basics of phonetic transcription in Standard American English. In addition, for students who are learning English as a second language, this workbook is a valuable learning resource. Students should find the Phoneme Study Cards a very helpful study tool for learn-

ing the IPA sound/symbol association. All of these cards can be listened to on the audio files. Each audio file corresponds to the Phoneme Study Card number.

New material added to the third edition includes Listening Activities that provide students with an opportunity to hear the contrast between phonemes. A helpful chart for Place-Manner-Voicing has been added, as well as a list of Internet resources. The audio files are now available on both CDs and a PluralPlus companion website. The workbook comes with access to both so the user can choose the format that best suits their needs.

The *Workbook* remains a helpful basic resource to master use of the IPA. Having taught an introductory Phonetics course since 1994 has refined my view of the basics required for students to become competent transcribers. The success of hundreds of students as they become proficient using the IPA has brought great satisfaction. Enjoy the learning process!

Mary Lou Marsoun, MA, CCC-SLP

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The memory of Dr. Sadanand Singh, co-author for the first edition remains. I have fond memories of Dr. Thayne Hedges who instilled my love of Phonetics when I took his course as an undergraduate.

Thanks to the Plural Publishing Group.

This edition would not be possible without the help and support of the Wing Family—Pam, Kevin, and Isaac (he is the most well-behaved six year old I've ever seen!). Cheryl Andrews' innovative page format continues to be a unique feature of the text. The original recordings by Kimberly Lenz,

Andrew Sessions, Scott Calderwood, and Kevin Wing have been a continued helpful source. In addition, thanks again to Kevin who agreed to record the Listening Activities for this edition.

Ray Settle and Eric Sherbon of Maximus Recording Studios have again made the recording process run smoothly.

This edition is dedicated to my dear daughter, Mary Claire and her husband, Ian Bachman. As always, love to the Marsoun clan and my friends who continue to put up with me.

Mary Lou Marsoun

Workbook Format

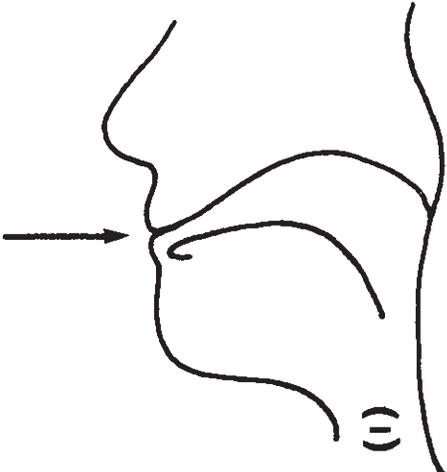
For each phoneme, an exercise to help you determine initial-medial-final phoneme position is provided, including the transcription exercise number and corresponding audio file. Remember that not all of the words in these exercises contain the specified phoneme. The goal is to ensure the student is not confused by spelling, and to focus on listening to the *sound* of the phonemes in the word. A phonetic transcription exercise follows, with a reference to the Phoneme Study Card and audio file.

The audio files are available on both the accompanying CDs and a PluralPlus companion website (the URL and access code is available on the inside front cover of the workbook). The workbook comes with access to both options so the user can choose the format that best suits their needs. The content is identical on both. The audio files are identified by the CD number located on (1, 2, 3, or 4), and are similarly organized into four sections on the companion website.

A phoneme description page is provided for the IPA phonemes. Each page is organized to provide the following information (see example on next page): (1) description of place, manner, and listing of distinctive features, (2) vocal fold and velopharyngeal port position, (3) tongue position and how the phoneme is produced, (4) variations in spelling, (5) word position in Standard American English (SAE), and (6) clinical information. The Clinical Information section includes a listing of a consonant cognate (sound made in the same place and the same manner), common articulatory substitutions (replacement of one phoneme for another), or omission (absence of a phoneme and another phoneme does not replace it).

A Crossword Puzzle and Word Search are also included, and provide more practice in phonetic transcription. Answers to all of the Crossword Puzzles and Word Searches are listed in Appendix B: Answers to Exercises.

Example of the Phoneme Description Page

Distinctive Features	Tongue Position
<p>1.</p> 	<p>3.</p>
Voicing/Velopharyngeal Port	Spelling Variations
<p>2.</p>	<p>4.</p>
Word Position	Clinical Information
<p>5.</p>	<p>6.</p>

CHAPTER

1

The International Phonetic Alphabet (IPA)

Learning Objectives

After reading this chapter, you will be able to:

1. State why the International Phonetic Alphabet (IPA) was developed.
2. Name and explain three reference points for studying speech sounds.
3. Define Phonetics and explain why it is a functional tool.
4. Identify the origin of many of the symbols of the IPA.

The English have no respect for their language, and will not teach their children to speak it. They cannot spell it because they have nothing to spell it with but an old foreign alphabet of which only the consonants—and not all of them— have any agreed speech value. Consequently no man can teach himself what it should sound like from reading it . . .

—George Bernard Shaw, Preface to *Pygmalion*

As George Bernard Shaw laments, the “old foreign alphabet” does not provide a reliable sound-symbol representation of speech sounds.

In 1886, the International Phonetic Association developed a sound-symbol sys-

tem based on an earlier alphabet developed by British phonetician Henry Sweet. This system was to be used to represent the sounds of all the languages of the world, and provided phoneticians with a system to communicate with each other.

If our spoken speech could accurately be represented by the English alphabet, we would have no need for a phonetic alphabet. Let's take a brief look at how we spell and pronounce some common English words. Although we have only some 40 sounds in English, we have more than 200 ways of spelling them, using our alphabet. For example, the sound of "sh" has up to 14 different spellings (faction, shoot, sugar, mission, ocean, champagne, etc.), the long "o" sound can be represented by over a dozen spellings (crow, so, doe, beau, etc.), and the long "a" sound in our alphabet is represented by 12 different spellings (lay, take, maid, freight, great, hey, etc.). Many consonants also are represented in several different ways. Consider the spelling of "t" in thank, tender, notion, the "h" in ache, hoist, hour, three, and enough, and the "c" in chair, bloc, and citrus. Although there has been a constant push from various groups to regularize our spelling, these movements have been met with resistance for centuries. You can see that mastery of the phonetic alphabet is an absolute necessity for anyone who needs an unambiguous, one-to-one representation of spoken speech. The phonetic alphabet meets this need.

Phonetic symbols are placed in slash marks, or virgules, such as /k/. Brackets [] are used to indicate a group of connected speech sounds.

Many consonant symbols of the IPA originate from the Roman alphabet: p, b, t, d, k, g, l, m, n, r, f, v, s, z, and w. Other symbols are from the Greek alphabet or have been created especially for the IPA. The "x" is not found in the IPA and is represented by /ks/, as "q" is represented by /kw/. Similarly, the "c" is represented by a /k/ in words with a "k" sound.

The Greek capital Theta /θ/ is used for the voiceless "th" as in "thigh." The /ð/ represents the voiced "th" as in "this." An

upside down "w" /ɱ/ or /hw/ is used for the voiceless "wh" as in "wheat."

A lengthened sigmoid /ʃ/ represents the "sh" as in "ship." The /ʒ/ symbolizes the "zh" sound, as in "beige." The IPA combines the symbols /t/ and /ʃ/ into /tʃ/ for the "ch" sound, as in "chick." Similarly, the /d/ and /ʒ/ join for /dʒ/ as in "Jack." The symbol /ŋ/ represents the "ng" sound, as in "ring." The /j/ may look familiar to you, but in the IPA it is used to represent the "y" sound as in "young." IPA symbols for English consonants are shown in Table 1-1.

The vowels of the IPA may be considered more challenging than the consonants, as you must learn a new sound/symbol system for the majority of them. For instance, the "a, e, i, u" do not represent the traditional vowel sounds. In addition, the IPA uses /ɪ/ /ʊ/ /æ/ /ɛ/ /ɜ/ /ə/ /ʌ/ /ə/ /ɔ/. You will be relieved to learn that the "o" is represented by the familiar /o/ in the IPA, although some phoneticians use the /ou/ to represent "o." As you can see, the vowels of the IPA can be confusing. Similarly, the diphthongs present another sound difference. The diphthongs are written as a combination of two vowel sounds fused together, for example, the /aɪ/ in the word "island." Other diphthongs include /aʊ/ as in "out," /ɔɪ/ as in "coy," and /ju/ as in "cute." IPA symbols for English vowels and diphthongs are shown in Table 1-2.

You are learning a new, exciting language—it will take time and study, but your efforts will be rewarded as you master transcription with the IPA!

Why Is It Important to Study Phonetics?

Phonetics, the study of speech sounds, is an extremely useful (and mandatory!) tool for the speech-language pathologist. *The International Phonetic Alphabet* (IPA) is used

Table 1–1. English Consonants and Their IPA Symbols

Primary Allographic or Orthographic Symbol	IPA Symbol	Key Words
p	/p/	pal, apart, tap
b	/b/	barn, cabin, rub
t	/t/	tea, water, aunt
d	/d/	dish, lady, sand
k	/k/	card, bacon, hook
g	/g/	game, sugar, bag
f	/f/	feed, afford, elf
v	/v/	van, envy, have
th	/θ/	thin, something, cloth
th	/ð/	this, weather, bathe
s	/s/	sat, lesson, horse
z	/z/	zone, puzzle, hose
sh	/ʃ/	ship, fashion, mash
zh	/ʒ/	treasure, beige
h	/h/	hit, behave
wh	/hw/	which, nowhere
ch	/tʃ/	chip, scratching, pitch
j	/dʒ/	jam, magic, page
w	/w/	wet, sandwich
y	/j/	yard, beyond
l	/l/	leaf, mellow, hill
r	/r/	rake, carrot, or
m	/m/	men, camel, time
n	/n/	net, dinner, pine
ng	/ŋ/	ringer, ring

to transcribe, or record using the IPA, the speech of a client. Transcribing the speech errors of a child or adult is an integral part of the assessment process.

Transcription can be *phonemic* or *phonetic*. Phonemic transcription is broad transcription. Broad transcription converts speech into phonemic symbols, written within virgules / /. Phonetic transcription

is narrow transcription that records exactly how an utterance was produced. Narrow transcription utilizes diacritics (see Chapter 15), indicating a specific way a phoneme was produced. Words are written inside of brackets [].

Recording the client's speech using the IPA enables another professional to identify how speech sounds have been produced.

Table 1–2. English Vowels and Their IPA Symbols

Primary Allographic or Orthographic Symbol	IPA Symbol	Key Words
ee	/i/	eat, keep, free
-i-	/ɪ/	in, mitt, city
-e-	/ɛ/	ebb, net
-a-	/æ/	at, bat, ham
a-e	/e/	age, face, say
-ur-	/ɜː/ (stressed)	earn, herd, fur
	/ə/ (unstressed)	herder, percent
-u-	/ʌ/ (stressed)	up, cup, done
	/ə/ (unstressed)	alive, relative, sofa
-oo-	/u/	boot, stew, soup
-oo-	/ʊ/	hood, could, cook
-aw-	/ɔ/	all, yawn, paw
-o-	/ɑ/	on, bomb
oa	/o/	oak, pole, toe
ou	/aʊ/	ouch, gown, how
i-e	/aɪ/	ice, shine, rye
oi	/ɔɪ/	oyster, loin, toy
u	/ju/	use, cue, mew

How Speech Sounds Can Be Studied

One of the ways that speech sounds can be studied is as isolated, separate, and independent entities. Another way speech sounds can be studied is by comparing one sound with another sound. In this Workbook, we will discuss the system of speech sounds classified as Standard American English (SAE), the major dialect of English spoken in the United States of America. Refer to Chapter 16 for a definition of SAE.

A detailed study of speech sounds involves three reference points: (a) the organs that produce speech, and their function in producing speech sounds (*physiological phonetics*), (b) the physical properties of the indi-

vidual speech sounds (*acoustic phonetics*), and (c) the process by which the individual speech sounds are perceived and identified (*perceptual phonetics*). Physiological phonetics is the focus of this Workbook, and is discussed in Chapter 2.

Regardless of the setting in which a speech-language pathologist is employed, a thorough knowledge of phonetics is essential. For instance, it is not uncommon for a speech-language pathologist employed in a school setting to use phonetics daily. Considering the importance of phonetics as a functional tool, it has always puzzled the author that only one semester of undergraduate phonetics is required for academic majors in speech-language pathology in the United States. In the United Kingdom, four courses in phonetics are required!

STUDY QUESTIONS

1. Why is mastery of the International Phonetic Alphabet (IPA) important?

2. From what language did many of the IPA symbols originate?

3. What is the purpose of the IPA?

4. Why are the IPA vowels considered more challenging than the consonants?

5. Define Phonetics.

6. Name and describe the three reference points in the study of speech sounds.

7. Write the IPA phoneme that represents the following sounds:

- | | |
|-------------------------|----------------|
| a. "sh" _____ | d. "ee" _____ |
| b. "th" _____ and _____ | e. schwa _____ |
| c. "ng" _____ | f. "ash" _____ |

8. What is the difference between *phonemic* and *phonetic* transcription?
