

English Phonetics and Phonology

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Week 1

The English Sound System

Things to ponder...

- What are the relationships between sounds and letters?
- How are sounds produced?
- How are speech sounds represented?
- What does the English sound system consist of?
- Which English pronunciation system are we learning?
- How is phonetics different from phonology?

Phonetics

= the study of ways human make, transmit, and receive speech sounds

- **articulatory**
- **acoustic**
- **auditory**

Phonology

= the study of the sound systems of languages, and of the general properties displayed by these systems.

how speech sounds of a language **pattern together** according to **regular rules** (of a specific language)

Phonics

Decoding and encoding of sounds into graphemes (letters)

e.g. **man**
How many letters?
How many sounds?
Each letter represents one sound m-a-n

notation of **segments**

notation of **suprasegmentals**
length, pitch, stress

Phonemics

44 phonemes
Allophones

Sound **sequences**
Syllables

Intonation **patterns**
Stress

Intelligible? Comprehensible? Professional?

The screenshot shows a Microsoft Internet Explorer browser window displaying a YouTube video. The video player is the central focus, showing a man speaking. Below the video, there are 149 ratings, 75,660 views, and several text comments. The right sidebar contains a user profile for 'chanwingchi', a 'Subscribe' button, and a list of related videos. The browser's address bar shows the URL: <http://www.youtube.com/watch?v=1O85GLEAgeo&NR=1>. The Windows taskbar at the bottom shows various open applications and the system clock at 13:24.

YouTube - English and Chinese Accent - Microsoft Internet Explorer

Address: <http://www.youtube.com/watch?v=1O85GLEAgeo&NR=1>

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English and Chinese Accent

chanwingchi November 14, 2007 (more info) [Subscribe](#)

This is the video log to show you my english accent, because i am chinese and make the video to show the english is very good

URL: <http://www.youtube.com/watch?v=1O85GL>

Embed: `<object width="425" height="344"><param`

More From: chanwingchi

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vinnyboi89 (11 hours ago) [Reply](#) [Spam](#) 0 0

voulderemen, haha

girlygirlfututist1123 (1 day ago) [Reply](#) [Spam](#) 0 0

i guess he is good!its it way better than my aunt and moms and they have lived in america for at least 20 years

Start MyIEed Portal Ho... pronunciation ... Yahoo!奇學園... YouTube - Eng... Teaching Pronu... Recent working ... Introduction.do... 13:24

<http://www.youtube.com/watch?v=1O85GLEAgeo&NR=1>

Why Teach English Phonetics and Phonology? (1)

1. Teaching Intelligible Pronunciation

The features of pronunciation which can cause confusion include

- (1) Using the wrong sound
- (2) Leaving sounds out
- (3) Adding sounds
- (4) Putting stress on the wrong syllable in a word
- (5) Putting stress on the wrong word in a sentence
- (6) Using the wrong intonation pattern
- (7) Combinations of these problems

Why Teach English Phonetics and Phonology? (2)

2. Teaching to Create the Best Impression

-particularly at a more advanced level,
e.g. for job interviews

3. Teaching to build up the relationship between pronunciation and writing

e.g. dateline vs. deadline

(1) don't distinguish the vowels in **date** and **dead**

(2) Devoice the final consonant of **dead**

(3) So..they become “homonyms”

Another example: **syllabus** vs. **syllables**

What to teach: Segments (1)

Phonics

- English Alphabet: _____ letters
- English sound system: _____ phonemes
- Letter-sound NOT always a one-to-one relationship
e.g.

Sometimes one letter represents more than one sound e.g. man, watch, ago, car, name, always, saw

Sometimes different letters represent the same sound. E.g. cent, sent

What to teach: Segments (2)

Do you want to learn/teach
International Phonetic Alphabet (IPA)?

CONSONANTS (PULMONIC)

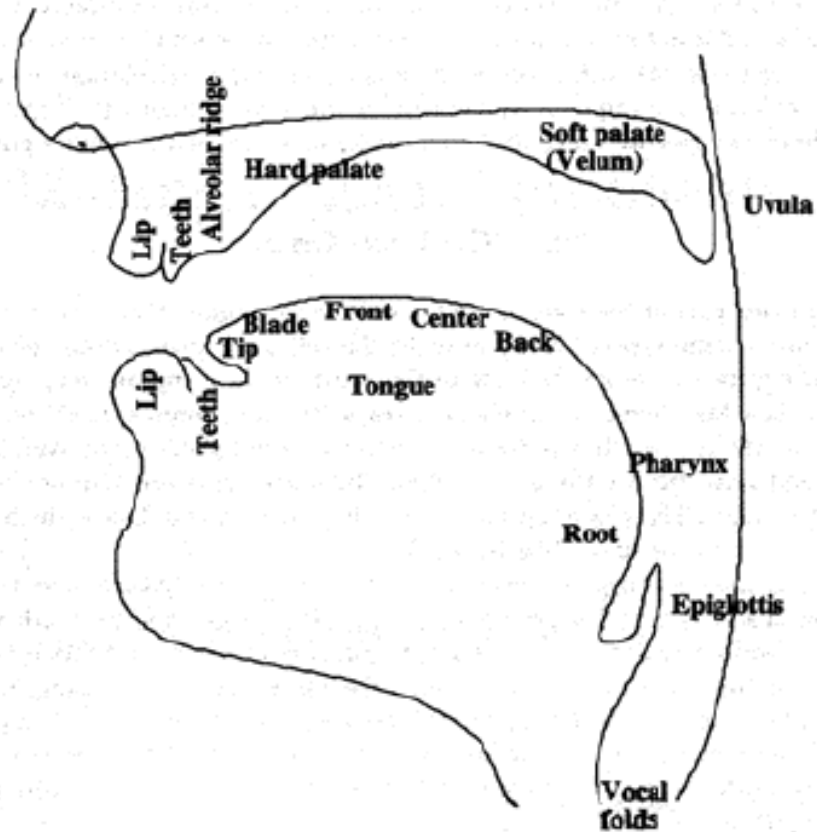
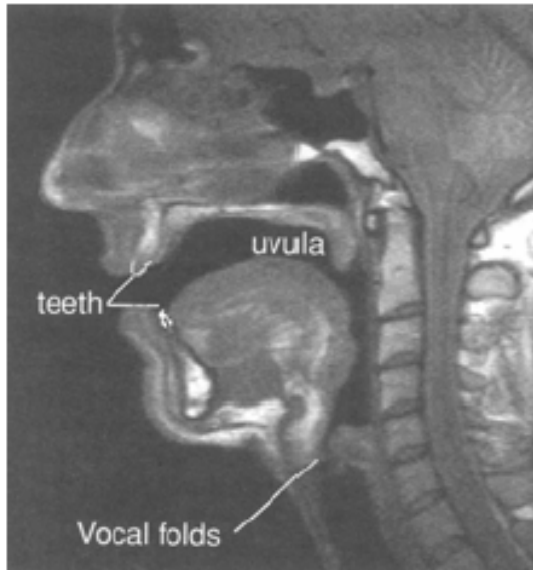
	Bilabial	Labiodental	Dental	Alveolar	Postalveolar	Retroflex	Palatal	Velar	Uvular	Pharyngeal	Glottal
Plosive	p b			t d		ʈ ɖ	c ɟ	k ɡ	q ɢ		ʔ
Nasal	m	ɱ		n		ɳ	ɲ	ŋ	ɴ		
Trill	ʙ			ʀ					ʀ		
Tap or Flap				ɾ		ɽ					
Fricative	ɸ β	f v	θ ð	s z	ʃ ʒ	ʂ ʐ	ç ʝ	x ɣ	χ ʁ	ħ ʕ	h ɦ
Lateral fricative				ɬ ɮ							
Approximant		ʋ		ɹ		ɻ	j	ɰ			
Lateral approximant				l		ɭ	ʎ	ʟ			

Where symbols appear in pairs, the one to the right represents a voiced consonant. Shaded areas denote articulations judged impossible.

What to teach: Segments (3)

Articulation positions of consonants

Positions



What to teach: Segments (4)

Consonant Chart : 24 phonemes

Table 1 *Chart of English consonant phonemes*

		Place of articulation							
		Bilabial	Labiodental	Dental	Alveolar	Palato-alveolar (Post-alveolar)	Palatal	Velar	Glottal
Manner of articulation	Plosive	p b			t d			k g	
	Fricative		f v	θ ð	s z	ʃ ʒ			h
	Affricate					tʃ dʒ			
	Nasal	m			n			ŋ	
	Lateral				l				
	Approximant	w					r	j	

see p. 52 of Roach, 2009

Consonants

(24)

How many?

p pen **b** back **t** tea **d** day

k key **g** get **f** fat **v** view

θ thin **ð** then **s** soon **z** zero

ʃ she **ʒ** pleasure

tʃ cheer **dʒ** jump

h hot **m** man **n** no **ŋ** sing

l led **r** red **w** wet **j** yet

What to teach: Segments (5)

- We can describe each English consonant sound using technical language like “**θ**” for a **voiceless inter-dental fricative**

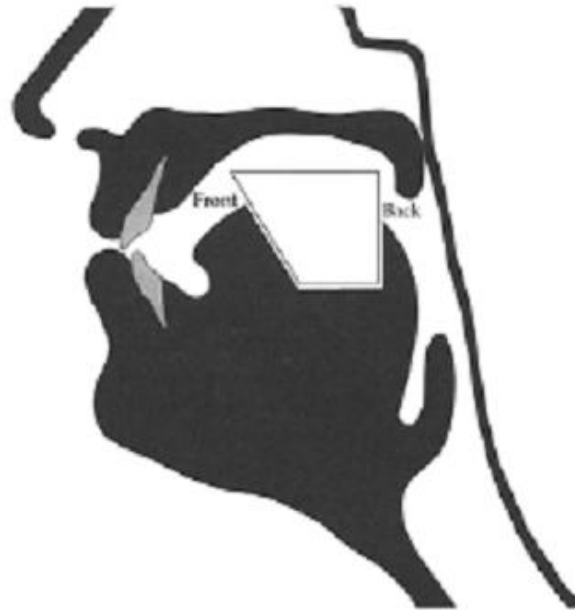
But...

- We can use **everyday words** to describe sounds in terms of 3 features:
 1. **What parts** of the mouth are used (“place of articulation”)
 2. **How** the sound is made (“manner of articulation”)
 3. Whether or not a **sound** is made in the **throat** (“voicing”)

What to teach: Segments (6)

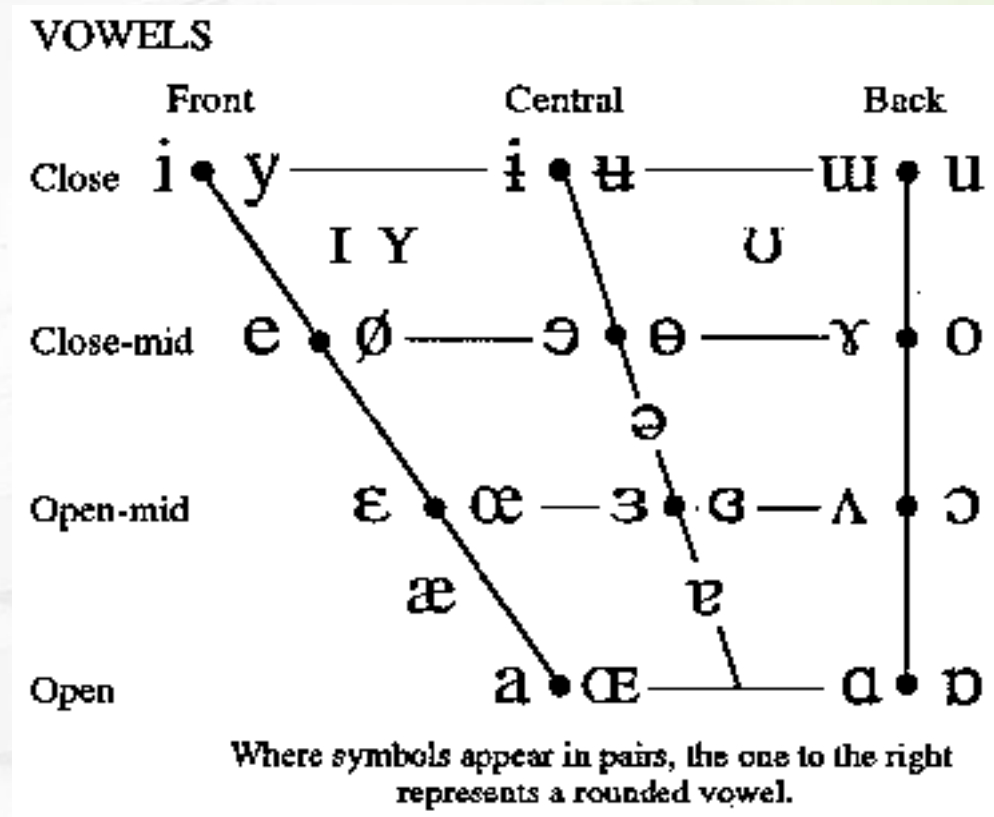
- **The Classical Contrasts of Vowel Space**

How to locate the “vowel space” and get the basic qualities of the vowel



What to teach: Segments (7)

Chart of Vowels



Front

Central

Back

Close

■ iː

■ uː

■ ɪ

■ ʊ

Close-mid

■ e

■ ə

■ ɜː

■ ɔː

Open-mid

■ ʌ

**English Vowels
(RP)**

Open

■ æ

■ ɑː

■ ɒ

Vowels & Diphthongs (20 phonemes)

ɪ ship e bed æ bad ɒ pot
ʌ cut ʊ put ə cupboard again

i: sheep ɑ: father ɔ: caught
u: boot ɜ: bird

eɪ make aɪ buy ɔɪ boy
aʊ now əʊ grow
ɪə here eə there ʊə poor

What to teach: Segments (8)

GA and RP accents

The sounds of English and the International Phonetic Alphabet

This table contains all the sounds (phonemes) used in the English language. For each sound, it gives:

- The **symbol** from the International Phonetic Alphabet (IPA), as used in [phonetic transcriptions](#) in modern dictionaries for English learners — that is, in A. C. Gimson's phonemic system with a few additional symbols.

The table represents British and American phonemes with one symbol. One symbol can mean two different phonemes in American and British English. See the footnotes for British-only and American-only symbols.

- Two English **words** which use the sound. The underline shows where the sound is heard.
- The links labeled **Amer** and **Brit** play sound recordings (you need Flash 9 or higher) where the words are pronounced in American and British English. The British version is given only where it is very different from the American version.

To print the table, use the [printable PDF version](#).

vowels			consonants		
IPA	words	listen	IPA	words	listen
ʌ	<u>cup</u> , <u>luck</u>	Amer	b	<u>bad</u> , <u>lab</u>	Amer
ɑ:	<u>arm</u> , <u>father</u>	Amer / Brit	d	<u>dj</u> d, <u>lad</u> y	Amer
æ	<u>cat</u> , <u>black</u>	Amer	f	<u>find</u> , <u>if</u>	Amer
e	<u>mat</u> , <u>bed</u>	Amer ¹	g	<u>give</u> , <u>flag</u>	Amer
ə	<u>away</u> , <u>cinema</u>	Amer ²	h	<u>how</u> , <u>hello</u>	Amer
ɜ:ʔ	<u>turn</u> , <u>learn</u>	Amer / Brit ²	j	<u>yes</u> , <u>yellow</u>	Amer
i	<u>hit</u> , <u>sitting</u>	Amer	k	<u>cat</u> , <u>back</u>	Amer
i:	<u>see</u> , <u>heat</u>	Amer	l	<u>leg</u> , <u>jittle</u>	Amer
ɒ	<u>hot</u> , <u>rock</u>	Amer / Brit ³	m	<u>man</u> , <u>lemon</u>	Amer
ɔ:	<u>call</u> , <u>four</u>	Amer / Brit ^{4 5}	n	<u>no</u> , <u>ten</u>	Amer
u	<u>put</u> , <u>could</u>	Amer	ŋ	<u>sing</u> , <u>finger</u>	Amer
u:	<u>blue</u> , <u>food</u>	Amer	p	<u>pet</u> , <u>map</u>	Amer
aɪ	<u>five</u> , <u>eye</u>	Amer	r	<u>red</u> , <u>try</u>	Amer
oʊ	<u>now</u> , <u>out</u>	Amer	s	<u>sun</u> , <u>miss</u>	Amer
oʊ	<u>go</u> , <u>home</u>	Amer ⁶	ʃ	<u>she</u> , <u>crash</u>	Amer
eəʔ	<u>where</u> , <u>air</u>	Amer / Brit ^{1 7}	t	<u>tea</u> , <u>getting</u>	Amer
eɪ	<u>say</u> , <u>eight</u>	Amer	tʃ	<u>check</u> , <u>church</u>	Amer
iəʔ	<u>near</u> , <u>here</u>	Amer / Brit ⁷	θ	<u>think</u> , <u>both</u>	Amer
ɔɪ	<u>boy</u> , <u>join</u>	Amer	ð	<u>this</u> , <u>mother</u>	Amer
ɪəʔ	<u>nurse</u> , <u>tourist</u>	Amer / Brit ⁷	v	<u>voice</u> , <u>five</u>	Amer

What to teach: Segments (9)

An example of Phonological Processes

Name of Process	Examples
Assimilation Process	
Progressive Assimilation (Left-to-Right Persevative)	The English plural is either /z/ or /s/ when it occurs after a non-sibilant sound. The voicing feature is taken from the final consonant of the base. e.g. work s [s] run s / play s [z]

Note. Sibilants: /s/, /z/, /ʃ /, /ʒ/, /tʃ/, /dʒ/

What to teach: Segments (10)

Combinations of sounds: consonant cluster

English speakers often simplify final clusters in rapid speech

e.g. texts /teks(s)/

But...

They don't normally drop the final consonant in a cluster, e.g. suffix –s, –ed (walked, friends)

What to Teach: Supra-segments (1)

What is stress? (Word /Sentential)

- 1. Stressed syllables are usually **louder** and **longer** than other syllables.
- 2. Some words, which are important bits of information in the message, receive what we call **tonic stress (pitch movement)**
- English tones include **rising, falling and falling-rising**

What to Teach: Supra-segments (2)

- Stress within words

1. Noun/Verb pairs

Noun

ˈC**o**nduct

ˈ**I**mport

ˈ**R**ecord

Verb

co**n**ˈ**D**uct

imˈ**P**ort

reˈ**C**ord

What to Teach: Supra-segments (3)

2. Compound nouns

´ **White** House

´ **green**house

´ **blue**berries

´ **post** office

What to Teach: Supra-segments (4)

3. Suffixes can be classified into three types according to their effect on stress:

(1). **stress-preserving**: -ment in
enter **tain**ment

(2). **stress-attracting**: -ette in
cigar **ette**

(3). **stress-shifting**: they cause the stress to shift to another syllable within the word, but not to the suffix -tion in

educate

edu**ca**tion

What to Teach: Supra-segments (5)

Rhythm, stress and Intonation in Sentences

´Jack and ´Jill went ´up the ´hill

To ´fetch a ´pail of ´water

´Jack fell ´down and ´broke his ´crown

And ´Jill came ´tumbling ´after

What to Teach: Supra-segments (6)

The Emphasis Pattern of English

Content Words	Function Words
<p>nouns (<i>cat, book, Mary</i>)</p> <p>main verbs (<i>make, run</i>)</p> <p>adjectives (<i>good, happy</i>)</p> <p>adverbs (<i>quickly, often</i>)</p> <p>question words (<i>who,</i> <i>what, when, where,)</i></p> <p>demonstrative pron. <i>(this, that, these, those)</i></p>	<p>pronouns (<i>he, she, it, they</i>)</p> <p>prepositions (<i>in, on, of, at</i>)</p> <p>articles (<i>a, an, the</i>)</p> <p>"to-be" verbs (<i>am, is, are</i>)</p> <p>"to-have" verbs (<i>has, have</i>)</p> <p>conjunctions (<i>and, but, so</i>)</p> <p>auxiliary verbs (<i>do, can,</i>)</p>

What to Teach: Supra-segments (7)

Intonation:

Each tone can have several different functions:

- **Falling tone (↘)**: statement (or wh-Q), definiteness, end of a list
- **Rising Tone (↗)**: yes-no question, indicating surprise, end of an item (but not the last one) in the list
- **Falling-rising Tone: (↘ ↗)**
 1. indicating uncertainty, hesitation
 2. indicating encouragement
 3. indicating syntactic break in the middle of a sentence

What to Teach: Supra-segments (8)

Here are the example of neutral placement of the stress—where it falls on **the last content word**

- Yesterday Sam gave a big blue book to **Clara**
- Yesterday Sam gave a big blue **book** to her
- Yesterday Sam gave a big **blue** one to her
- Yesterday Sam **gave** it to her

What to Teach: Supra-segments (9)

- Yesterday Sam gave a big blue **book** to Clara.
(not a bag, or some other thing)
- Yesterday Sam gave a big **blue** book to Clara.
(not a red or a green one)
- Yesterday Sam gave a **big** blue book to Clara
(not a small one)
- Yesterday Sam **gave** a big blue book to Clara
(He actually handed it to her; he didn't send it by post)
- Yesterday **Sam** gave a big blue book to Clara
(Sam did it, not Steve)
- **Yesterday** Sam gave a big blue book to Clara
(not this morning)

What to Teach: Supra-segments (10)

Pause and thought Group

We pause briefly between chunks. This gives our listeners a chance to absorb what we're saying.

Do you know where to pause in sentences to form thought groups?

We usually pause

1. before punctuation marks (, . ; : ? !)
2. before conjunctions (and, or, but, which, since..)
3. between grammatical units such as phrases, clauses, and sentences.
4. We often slow down at dramatic parts of a story or important points in an argument.

What to Teach: Supra-segments (11)

Once upon a starless midnight / there was an owl /
who sat on the branch of an oak tree./ Two
ground moles / tried to slip by, / unnoticed. / "You!"
/ said the owl. / "Who?" / they quavered, / in
fear and astonishment, / for they could not believe /
it was possible / for anyone to see them / in that
thick darkness./ (from *The Owl Who Was God* by
James Thurber)

Inter-language Phonology (1)

Contrastive analysis

MODERN STANDARD CHINESE

	LABIAL	DENTAL	ALVEOLAR	PALATO-ALVEOLAR	ALVEO-PALATAL	PALATAL	VELAR	GLOTTAL
STOP	p p ^h		t t ^h				k k ^h	
AFFRICATE			ts ts ^h	tʃ tʃ ^h	tɕ tɕ ^h			
FRICATIVE	f		s	ʃ ʒ	ç		x	
NASAL	m		n				ŋ	
APPROXIMANT	w		l			j		

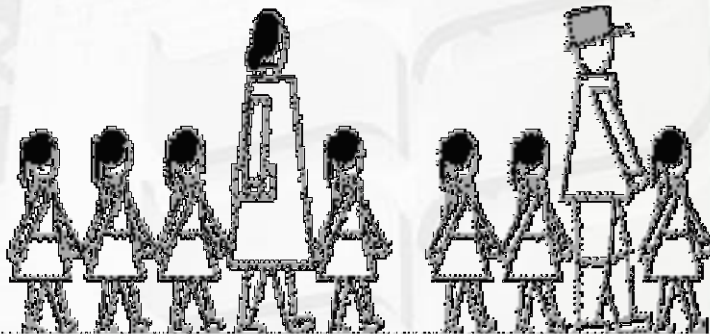
GENERAL AMERICAN ENGLISH

	LABIAL	DENTAL	ALVEOLAR	PALATO-ALVEOLAR	ALVEO-PALATAL	PALATAL	VELAR	GLOTTAL
STOP	b p		d t				g k	
AFFRICATE				tʃ dʒ				
FRICATIVE	f v	θ ð	s z	ʃ ʒ				h
NASAL	m		n				ŋ	
APPROXIMANT	w		l	r		j		

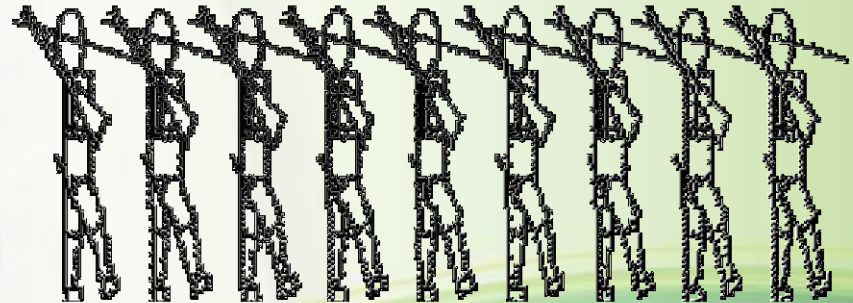
Inter-language Phonology (2)

Rhythm is timing patterns among syllables. There are basically two types of sentence rhythm in languages: "stress-timed rhythm" and "syllable-timed rhythm."

(A) Stress-timed Rhythm



(B) Syllable-timed Rhythm



Pronunciation is important

Online Resources (1)

Phonics for kids or lower achievers

Learn to Read at Starfall - teaching comprehension and phonics - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address <http://www.starfall.com/>

Google Go

Visit **The Starfall Store** for High-Quality Educational Products

Starfall.com
Where children have fun learning to read!

- 1. ABCs**
Let's get ready to read
Calendar, Gingerbread, Grandparent, Pumpkin
- 2. Learn to Read**
Zac the Rat and other tales
Turkey, Snowman, 100th Day!, Groundhog
- 3. It's Fun to Read**
About Me, Art Gallery, Magic + more!
Clover, Valentine, Word Hunt, Earth Day
- 4. I'm Reading**
Plays, Nonfiction, Comics + more!
Flower

[Teachers](#) around the world use Starfall.com and [Starfall high-quality educational products](#) as an inexpensive way to make the classroom more fun and inspire a love of reading and writing. [Parents](#) use Starfall to prepare their children for school, and to support them once they are there. Starfall is an educational alternative to other entertainment choices for children.

Primarily designed for first grade, Starfall is also useful for pre-kindergarten, kindergarten and

Done

start Internet ... pronunciation... Microsoft Po... Microsoft Po... EN 1:51 PM

Online Resources (2)

Phonetics: The sounds of American English

The screenshot shows a Microsoft Internet Explorer browser window displaying the website "Phonetics: The Sounds of American English". The address bar shows the URL <http://www.uiowa.edu/~acadtech/phonetics/english/frameset.html>. The page content is organized into several sections:

- Navigation:** A menu at the top left includes "consonants", "manner", "place", "voice", "vowels", "monophthongs", and "diphthongs". Under "vowels", there are sub-menus for "front", "central", and "back".
- Front Vowels:** A list of front vowels is shown: /i/, /ɪ/, /e/, /ɛ/, /æ/, and /a/.
- Vocal Tract Diagram:** A sagittal cross-section of the human head and neck, highlighting the oral cavity. A red sphere represents the tongue's position for the /i/ sound.
- Audio Player:** A video player shows the phonetic symbol /i/ with a play button. Below it, three example words are listed with speaker icons: "eat", "week", and "tree".
- Additional Features:** A "phonetiks" logo and "anatomy feedback" link are visible. At the bottom, there are radio buttons for "animation with sound" (selected) and "step-by-step description".

The Windows taskbar at the bottom shows the Start button, several open applications, and the system clock indicating 1:43 PM on 2/2/2006.

<http://www.uiowa.edu/~acadtech/phonetics/english/frameset.html>

Online Resources (3)

Online platforms: e.g. **My English Tutor (My ET):**

The "Automatic Speech Analysis System" can analyze the English speech on pronunciation, pitch, timing and emphasis, and even pinpoint problems to individual sounds

Pronunciation Diagnosis
[æɪ]

You are having trouble pronouncing the vowel [æɪ].

Pronunciation Method

- Open your mouth slightly. Curl your tongue toward the back of your mouth.

Tips:

- /æ/only appears as a stressed syllable or as a monosyllabic word that is stressed.
- Remember to curl your tongue, but avoid touching any part of your mouth.

Pronunciation

Expression	Comparison	Phoneme	Score	Remarks
A		æ	90	
13-year-old		θ	100	
		æɪ	54	Your pronunciation needs improvement.
		t	100	
		i:	97	
		n	100	
		j	89	
		ɪə	100	
		oʊ	100	
		l	100	

Overall Pronunciation Score 88

Overall Score 80

- Pronunciation 88
- Pitch 83
- Timing 82
- Emphasis 87

Tutor

13-year-old boy spent about 2 million dollars from a school computer, a jet, and other items over the net, using a password that belonged to a friend's mother.

The woman was shocked the day the helicopter's owner called and asked how she intended to pay for the aircraft. She's now trying to cancel the purchases.

The boy, who does not have a pilot license, has not said what he was going to do with his purchases.

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World Englishes

- ▶ As English is spoken around the world by different peoples, there are *variations* or differences in English pronunciation. We call these speech differences *accents*.
- ▶ What accent(s) do you speak English with?
- ▶ What accent(s) is the best model to learn? Why?
- ▶ Which model do we adopt in this course?

Received Pronunciation (RP)

Received Pronunciation

Received Pronunciation (**RP**) is the speech model used in Roach (2009) because

1. it has often been the standard accent for foreign learners learning British English (BrE);
2. it is the most fully described BrE accent;
3. it is most frequently used as the basis for textbooks and pronouncing dictionaries for overseas learners of BrE
4. it used to be used by most announcers and newsreaders on serious national and international BBC broadcasting channels. (p.4-5)

There is, of course, no implication that other accents are inferior or less pleasant-sounding.

Today...

- Module overview & Details of Course Assessment
- Meaning of phonetics/phonology/phonics
- 2 sub-systems of the English sound system- segmental and suprasegmental
- Major speech organs/production of speech sounds
- Adoption of RP in the Module
- Tutorial task: phonics-consonant letters and sounds