Instructional Document

Phonetics and Phonology for Teachers of English

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Chapter 1
Language and sound system

Language is a system of conventional spoken, manual (signed), or written symbols through which human beings express themselves as members of a social group and participants in its culture. Language is the expression of thought through speech sounds combined into words. Words are combined into sentences, this combination answering that of ideas into thoughts. Besides, language is also a tool for documenting the human history and revealing the speaker's identity. In the English sound system, there is a relation between sound and spelling system which is neither candid nor recognizable. The letters of English that are identifiable are not the same as the sounds of English. Furthermore, some properties of sound systems have in common, but some of them differ.

Definitions of language

Many definitions of language have been proposed as follows:

"Language is a means of human communication that involves the systematic use of words or signs to express meaning. The term language can also refer to a community's communication system," claimed Simons & Fennig (2018). Moreover, Sapir (1921) stated that "language is a fully human and non-instinctive means of transmitting thoughts, feelings, and wishes via the usage of symbols generated deliberately." Furthermore, according to Sturtevant (1947), he referred that "a language is a system of arbitrary verbal symbols that individuals and groups use to collaborate and communicate." The last, Chomsky (1957) said that "language is a set (finite or infinite) of sentences, each finite in length and created infinite set of elements."

As stated in the definitions above, humans are differentiated from other animals by their ability to communicate through language (Fromkin et al, 2007). Humans can produce a wide range of sounds. Each sound in our language can be detected and separated from the others. Despite variances in sounds,

vocabulary, structures, and meanings, languages are processed by the brain in similar ways (Fasold and Connor-Linton, 2006). As a result, all languages have certain underlying characteristics in common. The term "*language universals*" refers to features that are universal across languages. Below are the universal properties of language that are shared by all languages.

Universal properties of language

Although languages are diverse, there are properties shared by all languages. These properties are known as "*language universals*". These fundamental characteristics that are prevalent in all languages inform the nature and system of language that govern how languages work (Timyam, 2010: 2-9; Ariyapitipun, 2015: 8-9).

1. Productivity or Creativity

Creativity is an aspect of language which allows novelty in reaction to new thoughts, experiences, and situations (O'Grady et al., 2001: 3). Creativity refers to the ability to generate words and expressions to transmit new thoughts and experiences, and the potential to expand the linguistic units into an infinite variety of bigger units (Hudson, 2000). In other words, creativity encompasses more than the ability of speakers to invent new words and phrases. It is also involving speakers' ability to apply rules repeatedly to generate an infinite number of various and larger linguistic units. Speakers of all languages, for example, can arrange words in a variety of ways to create an infinite number of new sentences. This can be accomplished by continually placing various types of modifiers into a sentence, or by inserting one or more embedded clauses. For example,

> a. John lives in a condominium.
> b. John lives in a big condominium.
> c. John lives in a big modern condominium.
> d. John lives in a big modern condominium in Australia.

Furthermore, language allows for the transmission and comprehension of previously unheard messages. Native speakers of a language follow a set of norms that allow them to make potentially infinite use of finite resources.

2. Arbitrariness

Every language has a form, which might be a single sound or a group of sounds, as well as a meaning. Arbitrariness refers to a word's form being unrelated to its meaning and vice versa. The meaning is not dictated by the form, and the meaning is not predictable from the form. (Stewart & Vaillette, 2001). Since the forms of words have no connection with what they signify, words with the same meaning might have completely different forms in different languages. For example, in England, bakers bake *bread*, in France is called *pain*, in Fiji is called *madrai* (Finegan, 2004). Another example is the animal called *chicken* in English, is called *kai* in Thai, and is called *jee* in Chinese. Furthermore, the same forms have distinct meanings. For instance, the same form /li:/ means *bed* in French and means *meadow* in English (Stewart & Vaillette, 2001). From the example above, in different languages, the arbitrariness of linguistic signs is as follows:

2.1 The same meaning is conveyed by different forms.
2.2 The same form is expressed by different meanings.

Words have significance because native language speakers agree to accept them even so. If there was a non-arbitrary relationship between forms and meanings, with the meaning being decided by the form and the form being dictated by the meaning, such variations between languages would not occur. Linguistic systems, on the other hand, are not wholly unpredictable. Language is simply unexpected in the sense that the variations in the processes used are unpredictable.

3. Discreteness

Even though the language is produced as a "stream" (as in "*stream of speech*"), it can be broken down into meaningful *units* (such as discrete sounds), and those units can be combined in various ways to form larger units (such as discrete sounds like /n/, /æ/ and /p/ combining to form the word "nap" or "pan"). Discreteness is one of the most basic properties of human languages, as evidenced by the fact that a language contains a tiny collection of discrete sounds that may be recombined to generate thousands upon thousands of words. This refers to a linguistic element that is made up of, or can be broken down into, smaller linguistic units. In a continuous stream of speech, language speakers can easily identify the sounds in a word, pick out words from a phrase, and distinguish where one sentence stops and the next begins. For example, the utterance "*Be careful! There's broken glass on the floor*." English speakers can detect right away that it's made up of two sentences with distinct clausal boundaries, and they can also identify each word in both sentences.

As a result, in all languages, a continuous stream of speech can be broken down into distinct individual units, which can then be broken down further into smaller units. Speakers have no difficulty differentiating linguistic units in their tongues.

4. Interchangeability

Interchangeability refers to the idea that humans can receive and send identical linguistic signals, implying that they are not limited in the types of communications they can exchange. The point is that a speaker can physically construct any message, regardless of its reality or relationship to the speaker. As a result, human language is not gender - specific. It is interchangeable between men and women. However, this trait is not found in all species. This is not a feature that all animals have. Some male birds have sounds that females lack, queen ants make chemical fragrances that no other ants can produce, and some fish have sex-specific communication mechanisms.

5. Displacement

One of the most essential properties of human language is the ability to refer to entities that are spatially and temporally. It can even relate to non-existent entities and events (they are not present in reality). It can relate to content from the past, present, or future, both genuine and imagined. Language can be used to explain things, as well as to express feelings, thoughts, and imagination. For example, even if you've never seen a ghost, you can talk about it using words. One can express not just what is happening right now, but also what has happened in the past and what is planned for the future.

6. Mutability

The constant altering of all language over time is referred to as linguistic mutability, and it occurs at all levels of language. According to O'Grady et al. (2001), there are two sorts of linguistic modifications.

6.1 The modifications are minimal and occur rapidly. For example, new words like email, cloning, and the internet have been added to the lexicon.

6.2 Changes have a greater impact on a language's overall system and are more likely to occur over time. Negative forms, for example, were produced by adding ne before the verb and not after it.

I *ne* seye *not* the wordes.

Later, the prefix *ne* was rarely used, while the word *not* was commonly used after the verb.

I seye *not* the wordes.

Presently, *ne* has disappeared entirely and *not* appear after some types of verbs, such as auxiliary verbs (such as *be*, *do*, *have*, *will*, *can*, etc.)

I will *not* say the words.

The above examples demonstrate how language can be changed gradually over time. Speakers may not be aware of the change until it is formalized, or a new rule is established.

7. Inaccessibility

Inaccessibility is a property of subconscious linguistic knowledge. Speakers of a language are well-versed in how to use it; they are aware of which expressions are acceptable and which are not. They don't know how to explain this capacity, though.

For example, English speakers will accept the two sentences in which the terms *almost* and *very*, which are used to describe a degree, appear with the adjective *ready*.

    a. John is *almost ready* to run this project.
    b. John is *very ready* to run this project.

When these two degrees of nouns combine with the verb finish, however, the speaker is more likely to conclude that only sentence "c" sounds natural and grammatical.

    c. John *almost finished* this project.
    d. *John *very finished* this project.
    (* mark refers to ungrammatical sentence)

The speakers can recognize whether all these sentences are grammatical immediately based on the example above, but it's hard for them to explain why "c" is acceptable and "d" is not.

From the universal properties that all languages have in common. Every language has a sound system, a system for creating words, a process for organizing words into sentences, and a systematic method for assigning meanings. Every language has a common system and conceptual grammar.

Sound system

Language is a systematic and structured system in which each item is related to other units using basic rules. In all languages, there exist systems at the phonological, morphological, and syntactic levels. (Timyam, 2010: 1; Ariyapitipun, 2015: 7-8). The following are some common principles that regulate sound systems:

1. Consonant sounds (p, b, f, z, etc.) outnumber vowel sounds (e, æ, u:, etc.) in all languages.

2. In all languages, vowels can function as syllable nuclei.

3. All languages' words can be classified into the following categories, such as nouns, verbs, adjectives, etc.

4. Words that serve as subjects in a sentence have a natural tendency to come before words that serve as objects. SVO, SOV, and VSO order, in which the subject comes before the object, are used in almost 95 percent of the world's languages (Croft, 1990).

However, sound systems in a certain language are defined by the following principles:

1. In each language, just a few sounds appear, and only a few combinations of these sounds are possible. In English, for example, "Prell" is a permissible word, but "Zrell" is not since the consonant cluster /pr/ is allowed, but the cluster /zr/ does not appear in this language's sound system.

2. In English, a complete sentence must begin with a subject, then a verb, and finally an object (if there is one), whereas in Japanese, an object might come after a subject and before a verb. As a result, while the SOV order is ungrammatical in English since it is a system, it is grammatical in Japanese.

3. The Thai sound system lacks some English sounds, such as /g/, /v/, /θ/, /ð/, /z/, /ʃ/, /ʒ/, /tʃ/, and /dʒ/ (Kanokpermpoon, 2007: 57).

4. The structure of phrases, clauses, and sentences is governed by rules. The sentence "It is a nice site." is acceptable, for example, because the adjective "nice" must come before the noun it modifies in the English language system.

In the sound system, furthermore, speech sounds are classified into two categories. The first category of sound is called *segmental* which consists of consonant and vowel sounds. Each phoneme is commonly assumed to be one segment of speech and is placed in sequential order at the segment level. For example, the word "*sit*" consists of the initial syllable sound "s", vowel sound "ɪ", and the final syllable sound "t". Another category is *suprasegmental* which includes stress, rhythm, tone, intonation, etc. These kinds of sounds can only occur with segmental phonemes and cannot occur on their own.

English accents

English is a global language because it is used to communicate around the world. When it comes to the English accent, most people think of two types of accents: those from the United Kingdom and those from the United States.

There are many diverse sub-accents in both countries, but standard accents are those that are socially acceptable and pronounced by those who have been teaching in schools, academia, as well as the media. The RP (Received Pronunciation) accent, widely known as the BBC (British Broadcasting Corporation) accent, is the standard accent in the United Kingdom. The GA (General America) accent is considered standard in the United States. However, in America, the prototype dialect is now known as the NE (Network English) accent. It's a comprehensible accent used in official television communications. The standard British and American accent does not indicate the speaker's provenance (Wells, 1982; Ronnakiat, 2015: 17-18).

Summary

Language is a systematic and structured system. All languages have systems at the phonological, morphological, and syntactic levels, sound systems are governed by several principles, both common and unique. Human language is defined by several fundamental features. Universal language properties are a common determinant for languages all around the world. Humans can create words and expressions to communicate new ideas and knowledge. However, human language is not gender-specific, and word forms have no relationship to what they mean. Moreover, all languages can vary over time, and speakers of a language are aware of which expressions are acceptable and which are not. Besides, there is a common system and conceptual grammar in every language.

Exercises

Exercise 1

Directions: Fill in the blank by using the given words below.

Creativity	Arbitrariness	Discreteness
Interchangeability	Displacement	Mutability
Inaccessibility		

_____ 1) Language can be made up of, or can be broken down into smaller linguistic units.

_____ 2) The ability to refer to entities that are spatially and temporally.

_____ 3) All language can change over time.

_____ 4) A word's form being unrelated to its meaning.

_____ 5) The ability to create an infinite number of new sentences.

_____ 6) Speakers aware of which expressions are acceptable and which are not. They don't know how to explain this capacity.

_____ 7) Human language is not gender-specific.

Exercise 2

Directions: Write 3 common principles that regulate sound systems in all languages and give 2 examples of principles that are different in some countries.

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Chapter 2

Phonetics

Phones or speech sounds are sounds in language which is different according to each phoneme in that language. As a result, the pronunciation of each phoneme is distinct as well. A branch of linguistics that is concerned to study speech sounds in all human languages is phonetics. Phonetics is the study of the sounds of human speech in general. The study of speech sound can be divided into three branches: articulatory phonetics focuses on the production of speech sounds; acoustic phonetics studies the transmission of speech sounds, and auditory phonetics is concerned with the perception of speech sounds. This chapter focuses on articulatory phonetics, which is the study of how people make speech sounds.

Speech production

In pronouncing the speech sound, there must be an airstream used to be produced, and for the airstream to occur, there must be a mechanism that forces the airflow out, known as the airstream mechanism. When speech sounds are produced, it relates to three processes: the respiratory process, the phonatory process, and the articulatory process (Ladefoged, 2006: 4-5; Ronnakiat, 2011: 20-21; Collins, Mees, & Carley, 2019: 31-38).

1. The respiratory process

This process is concerned with the function of the lungs which is to force out the airstream through the trachea (or windpipe) and then move through the larynx, also commonly called the 'voice box' (known familiarly as Adam's apple).
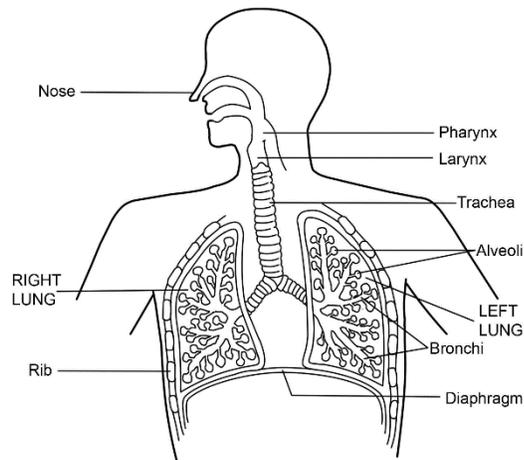
Figure 2.1 The respiratory process
Sources: https://divehub.id/the-respiratory-system/

2. The phonatory process

This process relates to the function of the vocal folds (also called the vocal cords) within the larynx. When the airstream flows through them, the vocal folds can form various positions which makes the stages of the glottis different. The various positions of the vocal folds can cause voiced and voiceless sounds. Afterward, the airstream flows through the oral cavity and nasal cavity.
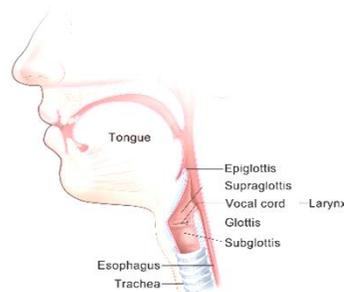

Figure 2.2 The phonatory process
Sources: https://www.cancer.gov/publications/
dictionaries/cancer-terms/def/vocal-cord

3. The articulatory process

This stage involves the function of articulators such as lips, tongue, teeth, and palate in the oral cavity. The touch or approach of articulators leads to different speech sounds.
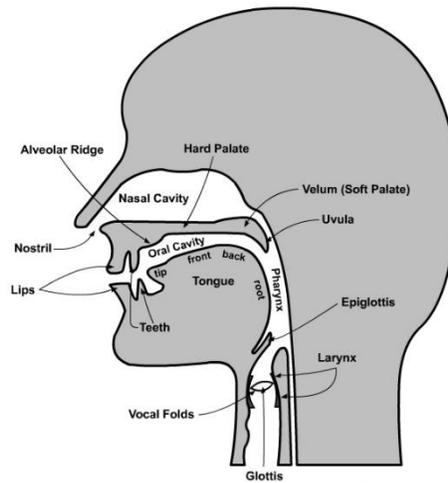

Figure 2.3 The articulatory process
Source: http://americanphonetics.ruhosting.nl/course/
5-the-production-of-speech/5-1-the-lungs-and-the-larynx/

Airstream mechanisms

When we breathe in, the airstream is called an *ingressive airstream* which flows through the lungs. On the other hand, when we breathe out, the airstream is called an *egressive airstream* which is forced out of the lungs through the organs. However, the great majority of the sounds found in human speaking are produced by an egressive pulmonic airstream. This airstream is produced from the lungs and flows through the other speech organs, which leads the airstream to flow differently. In producing speech sound, it can be produced from 3 different airstream mechanisms: pulmonic airstream mechanism, glottalic airstream mechanism, and velaric airstream mechanism (Ronnakiat, 2011: 22-24; Ariyapitipun, 2015: 19).

1. **Pulmonic airstream mechanism**

This airstream mechanism is produced from the lungs through the vocal tract for making speech sounds in the same way as for ordinary breathing. The mechanism of pulmonary airstream production is divided into 2 types: pulmonic egressive airflow and pulmonic ingressive airflow. Most of the speech is caused by pulmonic egressive airflow.

2. **Glottalic airstream mechanism**

This airstream mechanism involves the closure of the glottis, and the raising or lowering of the vocal cords which are in the larynx to change the pressure in the vocal tract. Because the airstream is used only above the pharynx, it is called the *pharyngeal airstream mechanism*. This kind of sound is rather short such as the sounds of baby talk.

3. **Velaric airstream mechanism**

It is produced by the back of the tongue touching the velum. In America, this sound is called the *oral airstream mechanism* because the airstream is used only in the oral cavity. Examples of this sound are click sounds and sound like *tut-tut* or *tsk tks* when people illustrate annoyance or an expression of emotion (Ladefoged & Johnson, 2015).

States of the glottis

The glottis is the space between the vocal folds and/or the arytenoids that have different characteristics. As a result, the characteristics of the phonation are different as follows: (Ronnakiat, 2011: 26-30; Collins, Mees, & Carley, 2019: 33-37).

1. **Voiceless**

The vocal folds and arytenoid cartilage are stretched wide apart for voiceless sounds, similarly to relaxed breathing. The pulmonic airstream also can freely escape.
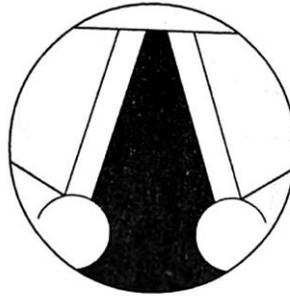
Figure 2.4 Glottal setting: voiceless

2. Voice

In the airstream produced by the lungs, the vocal folds vibrate at high speech frequencies. The arytenoids are tightly closed. Male voice vibrations change 130 times per second on average, while female voiced's vibrations change 230 times per second. Men's voices are deeper in pitch than women's due to the larger size of their vocal folds.
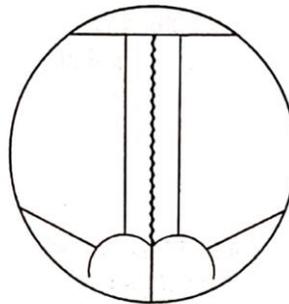

Figure 2.5 Glottal setting: voice

3. Glottal stop

The vocal folds and arytenoids are closed together during the glottal stop, which temporarily stops the airflow from the lungs. The blocked air rushes out when the glottal closure is released, making a noise like that made when lifting a heavy weight.
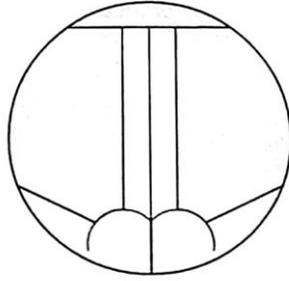
Figure 2.6 Glottal setting: glottal stop

4. Whisper

The vocal folds are gathered but do not vibrate. The arytenoids are separated, leaving a space at the back of the larynx through which high-velocity air passes.
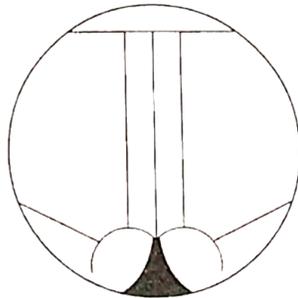
Figure 2.7 Glottal setting: whisper

5. Creak

The arytenoids are firmly pushed together while the front parts of the vocal folds gradually vibrate (about 40 times per second).
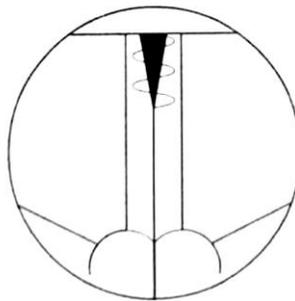
Figure 2.8 Glottal setting: creak

6. Creaky voice

The arytenoids are firmly pressed together while the front part of the vocal folds slowly vibrates, and the back portion of the vocal folds rapidly vibrates. The use of a creaky voice is widespread in British English as well as much American speech, particularly in high-status varieties.
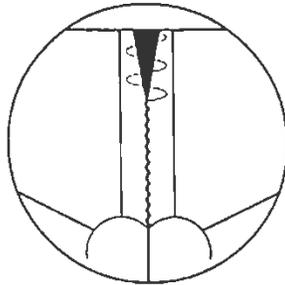
Figure 2.9 Glottal setting: creaky voice

7. Breathy voice

A breathy voice is a combination of voice and whisper. The vocal folds vibrate at high speech frequencies and there is a gap between arytenoids.   It's sometimes associated with 'sexy' voices.

Figure 2.10 Glottal setting: breathy voice

Figure 2.4-2.10
Sources: Collins, Mees, & Carley, 2019

Speech organs

The speech organs play a key role when we produce words or sentences. There are no distinctive organs used for making sounds but there is a combination of other speech organs for making the speech sounds. The pronunciation process consists of three main parts: the components that create the airflow, the components that create the voice sound, and the components that modify the speech sound (Yiemkuntitavorn, 2013: 56-58; Choticsathien, 2014: 8-15).

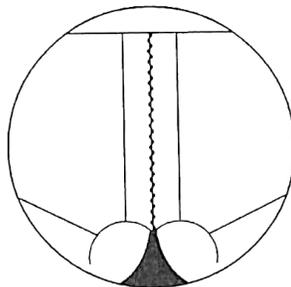**1. The components that create the airflow**

    1.1 Lungs

The lungs are the source for producing airstream which delivers to other speech organs to produce speech sounds. When we breathe in, the airstream passes through the trachea and breaks out into the bronchus, which breaks into bronchial tubes and passes into the air sacs. Under both lungs, there is a diaphragm, which is responsible for regulating the expansion and contraction of the lungs together with the functioning of the muscles as we breathe. When we speak, the airstream which is made with outgoing breath passes through the trachea, moves through the vocal folds, and flows through the oral cavity.

2. The components that create the voice sound

    2.1 Larynx

The larynx (known as the voice box) is an organ located at the top of the trachea. The larynx contains cartilage, muscles, and tendons. The top part of the larynx, which is adjacent to the base of the tongue is wider than the lower part, which is adjacent to the first bronchial bone.

    2.2 Vocal folds

The vocal folds (known as the vocal cords) are two small bands, arranged horizontally inside the larynx. Vocal folds can be flexible and moving, caused by the work of thyroid cartilage, cricoid cartilage, and arytenoid cartilage. When we speak, the vocal folds form different positions. When the vocal folds are relaxed, it forms a v-shaped opening, and the airstream is

allowed to pass through the open glottis without obstructing or vibrating from the vocal folds. This makes the *voiceless sounds*. When the vocal folds tighten up and move closer together, the air which is pumped up from the lungs through this glottis in vibration makes the vocal folds vibrate very rapidly, producing the *voiced sounds*.

3. The components that modify the speech sound

It is divided into 3 sections as follows:

3.1 Pharynx (pharyngeal cavity) is the part that connects the larynx to the oral cavity and the nasal cavity.

3.2 Nasal cavity is the area from the nostrils to the uvula.

3.3 Oral cavity is an area from the lips to the uvula. The speech organs in the oral cavity are divided into 2 sections:

3.3.1 The active articulators are the speech organs that can move to approach or touch the passive articulators. They are the lower lip, the lower teeth, and the tongue.

3.3.2 The passive articulators are placed on the top of the oral cavity and do not move during speech. They contain the upper lip, the upper teeth, the alveolar ridge (gum ridge), the hard palate, the soft palate or velum, and the uvula.
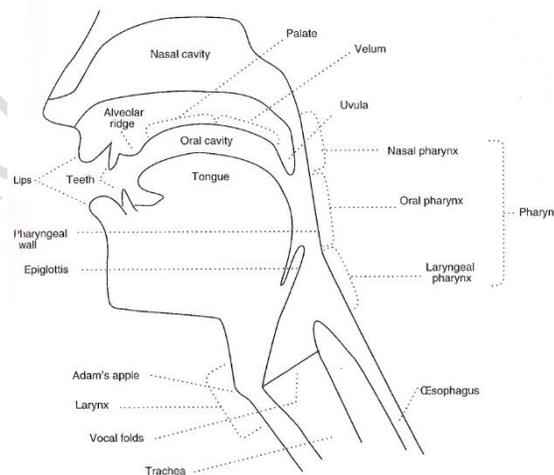

Figure 2.11 Speech organs
Sources: https://wstyler.ucsd.edu/talks/l101_4_phonetics1.html#/7

The following is a list of active and passive articulators and their descriptions:

1) Lips consist of the upper lip and the lower lip.

2) Teeth consist of the upper teeth and the lower teeth.

3) Tongue divides into five parts: the tip of the tongue or tongue tip, blade of the tongue or tongue blade, front of the tongue, back of the tongue or dorsum, and root of the tongue.

4) Alveolar ridge is the ridge behind the upper teeth. It is on the roof of the mouth between the upper teeth and the hard palate.

5) Hard palate is a thin bony plate located at the front of the roof of the mouth.

6) Soft palate or velum does not contain bone and it is located at the back of the roof of the mouth.

7) Uvula is a small lump at the end of the soft palate that can move up and down.

Phonetic alphabets

The pronunciation teaching is somewhat tough for Thais because there is an absolute distinction between Thai and English phonology. This causes crucial troubles for most Thai learners in pronouncing English words or sentences. In English, there is no one-to-one correlation between pronunciation and spelling, the relationship between speech sounds and alphabetical spelling does not consistently represent speech sounds. For example, (Permkasetwit, 2008: 4; Timyam, 2010: 17).

1. The same letter represents different sounds – the letter "a" in the word "m*a*n" represents the/æ/ sound while the same letter in the word "t*a*ll" represents the/ɔ:/ sound and in the word, "f*a*r" represents /ɑ:/ sound.

2. The same sounds are represented by using various letters – the /e/ sound in b*e*d, *a*ny, b*u*ry, l*e*opard, l*ei*sure, etc.

3. A single sound is represented by a combination of letters – the /ŋ/ sound in so*ng*, the /θ/ sound in *thi*gh, the /k/ sound in ro*ck*, the /ʊ/ sound in g*oo*d, etc.

4. A single letter represents more than one sound – the letter "p" in the word "*pure*" represents the /pj/ sound, the letter "x" in the word "*six*" represents the /ks/ sound, etc.

5. A letter does not represent any sounds, such as the letter "w" in the word "<u>w</u>rite", letter "b" in the word "de<u>b</u>t", letter "gh" in "thou<u>gh</u>", etc.

Thus, it is difficult to guess the pronunciation of an English word because English spelling is very inconsistent. For this problem, the phonetic alphabet is needed to help the learners pronounce the words correctly. The phonetic alphabet is designed to transcribe the speech sounds of human languages. The basic rule of the phonetic alphabet is that one phonetic symbol represents one unique sound. Speech sounds are written by phonetic alphabets is called *phonetic transcription*. If we transcribe the speech sounds by using the phonetic alphabet to be as a tool, we can pronounce the words accurately although there are various spellings. The phonetic alphabet that is to symbolizes the sounds of all languages and globally used all through the world is the *International Phonetic Alphabet (IPA)* presented by Otto Jespersen which was first introduced in 1886 and the IPA chart also developed by the *International Phonetic Association* (Ronnakiat, 2011: 17; Choticsathien, 2014: 1).

THE INTERNATIONAL PHONETIC ALPHABET (revised to 1993, updated 1996)

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	N		
Trill	B			r					R		
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	L			

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

CONSONANTS (NON-PULMONIC)

Clicks		Voiced implosives		Ejectives	
ʘ	Bilabial	ɓ	Bilabial	ʼ	Examples:
ǀ	Dental	ɗ	Dental/alveolar	pʼ	Bilabial
ǃ	(Post)alveolar	ʄ	Palatal	tʼ	Dental/alveolar
ǂ	Palatoalveolar	ɠ	Velar	kʼ	Velar
ǁ	Alveolar lateral	ʛ	Uvular	sʼ	Alveolar fricative

OTHER SYMBOLS

ʍ Voiceless labial-velar fricative

w Voiced labial-velar approximant

ɥ Voiced labial-palatal approximant

H Voiceless epiglottal fricative

ʢ Voiced epiglottal fricative

ʡ Epiglottal plosive

ɕ ʑ Alveolo-palatal fricatives

ɺ Alveolar lateral flap

ɧ Simultaneous ʃ and x

Affricates and double articulations can be represented by two symbols joined by a tie bar if necessary.   k͡p t͡s

VOWELS

Where symbols appear in pairs, the one to the right represents a rounded vowel.

SUPRASEGMENTALS

ˈ	Primary stress
ˌ	Secondary stress ˌfoʊnəˈtɪʃən
ː	Long eː
ˑ	Half-long eˑ
˘	Extra-short ĕ
ǀ	Minor (foot) group
ǁ	Major (intonation) group
.	Syllable break ɹi.ækt
‿	Linking (absence of a break)

DIACRITICS   Diacritics may be placed above a symbol with a descender, e.g. ŋ̊

̥	Voiceless	n̥ d̥	̤	Breathy voiced	b̤ a̤	̪	Dental	t̪ d̪
̬	Voiced	s̬ t̬	̰	Creaky voiced	b̰ a̰	̺	Apical	t̺ d̺
ʰ	Aspirated	tʰ dʰ	̼	Linguolabial	t̼ d̼	̻	Laminal	t̻ d̻
̹	More rounded	ɔ̹	ʷ	Labialized	tʷ dʷ	̃	Nasalized	ẽ
̜	Less rounded	ɔ̜	ʲ	Palatalized	tʲ dʲ	ⁿ	Nasal release	dⁿ
̟	Advanced	u̟	ˠ	Velarized	tˠ dˠ	ˡ	Lateral release	dˡ
̠	Retracted	e̠	ˤ	Pharyngealized	tˤ dˤ	̚	No audible release	d̚
̈	Centralized	ë	̴	Velarized or pharyngealized ɫ				
̽	Mid-centralized	e̽	̝	Raised	e̝ (ɹ̝ = voiced alveolar fricative)			
̩	Syllabic	n̩	̞	Lowered	e̞ (β̞ = voiced bilabial approximant)			
̯	Non-syllabic	e̯	̘	Advanced Tongue Root	e̘			
˞	Rhoticity	ɚ a˞	̙	Retracted Tongue Root	e̙			

TONES AND WORD ACCENTS

LEVEL			CONTOUR		
e̋ or	˥	Extra high	ě or	ꜛ	Rising
é	˦	High	ê	ꜜ	Falling
ē	˧	Mid	e᷄	↗	High rising
è	˨	Low	e᷅	↘	Low rising
ȅ	˩	Extra low	e᷈		Rising-falling
↓		Downstep		↗	Global rise
↑		Upstep		↘	Global fall

Figure 2.12 IPA Chart
Source: Handbook of the International Phonetic Association:
A guide to the use of the International Phonetic Alphabet,1999.

In English, there are twenty-four consonant sounds, twelve monophthongs, and eight diphthongs. For transcription, it is always put within slashes, / /. The phonetic symbols are shown in the table 2.1 below (Ariyapitipun, 2015: 39).

Table 2.1 The phonetic alphabets for English

Consonants		Vowels	
Keywords	Phonetic symbols	Keywords	Phonetic symbols
1. pie	/p/	1. ski	/i:/
2. ball	/b/	2. rich	/ɪ /
3. ten	/t/	3. set	/e/
4. day	/d/	4. man	/æ/
5. key	/k/	5. farm	/ɑ:/
6. go	/g/	6. hot	/ɒ/
7. man	/m/	7. tall	/ɔ:/
8. nine	/n/	8. wood	/ʊ/
9. sing	/ŋ/	9. food	/u:/
10. fat	/f/	10. onion	/ʌ/
11. van	/v/	11. word	/ɜ:/
12. think	/θ/	12. alone	/ə/
13. this	/ð/	13. day	/eɪ/
14. say	/s/	14. buy	/aɪ/
15. zip	/z/	15. toy	/ɔɪ/
16. ship	/ʃ/	16. now	/aʊ/
17. version	/ʒ/	17. no	/ʊə/

Consonants		Vowels	
Keywords	**Phonetic symbols**	**Keywords**	**Phonetic symbols**
18. h<u>ear</u>	/h/	18. id<u>ea</u>	/ɪə/
19. <u>ch</u>urch	/tʃ/	19. th<u>ere</u>	/eə/
20. <u>j</u>oke	/dʒ/	20. s<u>ure</u>	/ʊə/
21. <u>l</u>arge	/l/		
22. <u>w</u>ear	/w/		
23. <u>r</u>ead	/ɹ /		
24. <u>y</u>awn	/j/		

Source: Adapted from Ariyapitipun, 2015

Summary

The overwhelming majority of sounds found in human speech are produced by an egressive pulmonic airstream which is in the respiratory process. The airstream, in the phonatory process, flows through the vocal folds within the larynx. The vocal folds can form various positions to produce voiced and voiceless sounds. In the articulatory process, the airstream flows through the oral cavity and nasal cavity. The articulators such as lips, tongue, teeth, and palate touch or approach each other leading to different speech sounds. Different speech sounds are substituted by different phonetic symbols. Each symbol represented a particular sound allowing speakers to pronounce the words correctly and clearly. The mention above allows readers to recognize and comprehend the origins of sound generation, and it serves as a foundation for further learning more about consonant sounds and vowel sounds.

Exercises

Exercise 1

Directions: Fill in the blank by using the given words below.

acoustic phonetics	articulatory process	respiratory process
auditory phonetics	articulatory phonetics	phonatory process

1) _____ focuses on the production of speech sounds.

2) _____ focuses on the transmission of speech sounds.

3) _____ focuses on the perception of speech sounds.

4) _____ is concerned with the function of the lungs.

5) _____ relates to the function of the vocal folds.

6) _____ involves the function of articulators

Exercise 2

Directions: Fill in the blank with the correct answer.

1) _____ airstream mechanism is the airstream produced for making the speech sounds.

2) The majority of the sounds found in human speaking are produced by _____ airstream which is in the same way as for ordinary breathing out.

3) The airstream is allowed to pass through the open glottis without obstructing or vibrating from the vocal folds. This makes

_____.

4) The airstream flow through this glottis in vibration makes the vocal folds vibrate very rapidly, producing _____.

5) The examples of active articulators are _____

_____.

6) The examples of passive articulators are _____

_____.

Exercise 3

Directions: Write two English words that begin with the following phonetic symbols

1) /j/　　　　_____　　_____

2) /θ/　　　　_____　　_____

3) /ʃ/　　　　_____　　_____

4) /tʃ/　　　　_____　　_____

5) /dʒ/　　　　_____　　_____

Chapter 3

Classifications of consonant sounds

The phonetic features of consonant sounds are classified into 3 features: the places of articulation (the location of the stricture made in the vocal tract, such as bilabial, dental, or velar), the manners of articulation (how the obstruction of the airflow is accomplished, such as plosives, fricatives, or laterals) and the presence or absence of voicing. Before focusing on the classifications of consonant sounds, the features of pronunciation should be considered.

Features of pronunciation

The following diagram illustrates a breakdown of the main features of pronunciation (Kelly, 2013: 1).
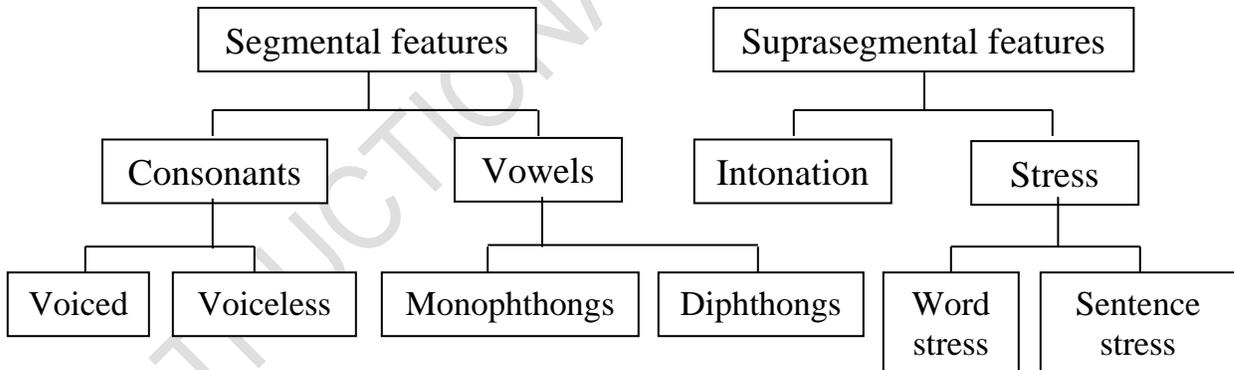
Figure 3.1 Features of pronunciation
Source: Adapted from Kelly, 2013

According to the main features of pronunciation, speech sound is divided into two categories: segmental features and suprasegmental features. The target of this chapter is to focus on segmental features that concern consonants and vowels. In part of consonants, how speech sounds are produced,

how the closure between active articulators and passive articulators are illustrated, and how the voiced are present or absent will be explained in the topic of places of articulation, manners of articulation, and voicing.

Classifications of consonant sounds

Within a language, phonemes are various sounds. Despite the minor differences in how people pronounce sounds, we can however generally accurately describe how each sound is produced. The phonemes are divided into two categories: vowel sounds and consonant sounds. Voiced and unvoiced consonant sounds are both available.

There are 24 English consonant sounds and each sound or phoneme can be pronounced variously according to the places of articulation, the manners of articulation, and voicing. The table below illustrates the symbols of each sound including the places of articulation and the manners of articulation.

Table 3.1 English phonemes

| Place \ Manner	Bilabial	Labiodental	Dental	Alveolar	Postalveolar	Palatal	Velar	Glottal	Labual-Velar
Plosive	p b			t d			k g		
Nasal	m			n			ŋ		
Fricative		f v	θ ð	s z	ʃ ʒ			h	
Affricate					tʃ dʒ				
Approximant				ɹ		j			w
Lateral				l					

Source: Adapted from Kitikanan, 2020

All the phonemes in this table come from the pulmonic airstream mechanism, with the top row referring to the organs that generate the sound. There are 11 places of articulation in total (according to the IPA chart): bilabial, labiodental, dental, alveolar, postalveolar, retroflex, palatal, velar, uvular, pharyngeal, and glottal; however, there are 9 places of articulation in English (as in the table): bilabial, labiodental, dental, alveolar, postalveolar, palatal, velar, glottal, and labial-velar. The vertical leftmost row is a manner of articulation, which has six manners to pronounce English sounds: plosive, nasal, fricative, affricate, approximant, and lateral. In addition, to determine whether phonemes are voiced or voiceless, see if the phonemes are to the left or right of the square. If the phoneme is on the left, it will be voiceless. But if it's on the right, it is voiced. Furthermore, the names of consonant sounds consist of the names of states of the glottis, places of articulation, and manners of articulation, for instance, the name of the phoneme '/p/' is a voiceless bilabial plosive, the name of the phoneme '/n/' is voiced alveolar nasal, and the name of the phoneme '/j/' is voiced palatal approximant, etc. (Ronnakiat, 2011: 27; Kitikanan, 2020: 10-12).

Places of articulation

Places of articulation refer to the place where the airstream is obstructed by two articulators in the vocal tract. The different places obstructing the airflow cause the different speech sounds. As mentioned in chapter 2, articulators comprise the active articulators and the passive articulators: *the active articulators* consist of the lower lip, the lower teeth, and the tongue, and *the passive articulators* include the upper lip, the upper teeth, the alveolar ridge (gum ridge), the hard palate, the soft palate or velum, and the uvula. The active articulators move to the passive articulators to produce various speech sounds.

Some consonants have two places of articulation, which is known as double articulation. The English /w/, for example, is 'labial-velar' because it is articulated at the lips (bilabial) and the velum (velar) (Ronnakiat, 2011: 57; Collins, Mees, & Carley, 2019: 46). In addition, the phrases fortis, or strong, and lenis, or weak, are used to describe the force of articulation. In spoken

English, "fortis" refers to voiceless sounds that need a more strongly expelled airstream than "lenis" sounds, which are voiced. When it comes to English consonants, the distinction is particularly relevant when distinguishing between sounds that are articulated the same way but are pronounced differently, one employing the voice and the other not. An example pair is /p/ (voiceless, and fortis) and /b/ (voiced, and lenis) (Kelly, 2013: 47).
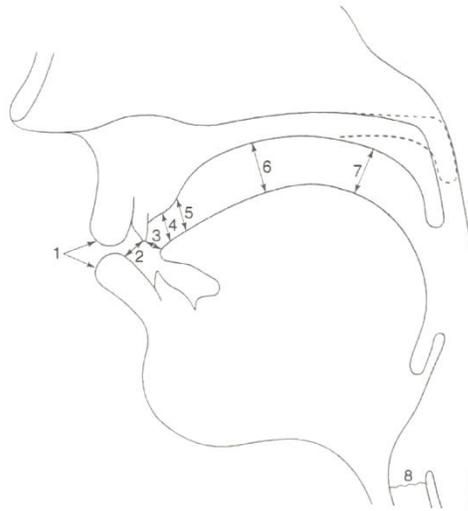
1 Bilabial (lower lip ←→ upper lip)
2 Labiodental (lower lip ←→ upper teeth)
3 Dental (tip of the tongue ←→ back of upper teeth)
4 Alveolar (tip of the tongue ←→ alveolar ridge)
5 Postalveolar (tip/blade of the tongue ←→ rear part of alveolar ridge)
6 Palatal (front of the tongue ←→ hard palate)
7 Velar (back of the tongue er lip ←→ velum)
8 Glottal (glottis)

Figure 3.2 Places of articulation
Source: Collins, Mees, & Carley, 2019

The followings below are the places of articulation including the characteristics of articulators and the illustrated phonetic symbols of each place (Ariyapitipun, 2015: 25; Kitikanan, 2020: 16-26).

1. Bilabial

Both lips touch each other, e.g., /p/, /b/, /m/.
/p/ is voiceless; /b/ and /m/ are voiced.

2. Labiodental

The lower lip approaches the upper teeth, e.g., /f/, /v/.
/f/ is voiceless; /v/ is voiced.

3. Dental / Interdental

3.1 Dental
   – The tip of the tongue approaches the back
      of the upper teeth. (British English)
3.2 Interdental
   – The tip of the tongue is placed between the upper
      and the lower teeth. (American English), e.g., /θ/, /ð/
      /θ/ is voiceless; /ð/ is voiced.

The British English speakers use a dental realization of /θ/ for 90%, and 10% using the interdental. In contrast, an interdental realization of /θ/ was observed for 90% of the American speakers but with a dental realization only evident for the remaining 10% (Biber & Jones, 2005).

4. Alveolar

The tip of the tongue touches the alveolar ridge, e.g., /t/, /d/, /s/, /z/, /n/, /ɹ/, /l/.
/t/ and /s/ are voiceless; /d/, /z/, /n/, /ɹ/, and /l/ are voiced.

5. Postalveolar (alveolar-palatal or palato-alveolar)

The tongue tip or blade approaches the rear part of alveolar ridge, e.g., /ʃ/, /ʒ/, /tʃ/, /dʒ/.

/ʃ/ and /tʃ/ are voiceless; /ʒ/ and /dʒ/ are voiced.

6. Palatal

The front of the tongue approaches the hard palate, e.g., /j/.
/j/ is voiced.

7. Velar

The back of the tongue approaches the soft palate (velum), e.g., /k/, /ɡ/, /ŋ/.

/k/ is voiceless; /ɡ/ and /ŋ/ are voiced.

8. Glottal

The constriction between the vocal folds, e.g., /h/.
/h/ is voiceless.

9. Labial-velar (labio-velar semi-vowel)

This phoneme has two places of articulation resulting in what termed a double articulation. In English /w/ is articulated at the lips (bilabial) and at the velum (velar) and hence is termed labial-velar. Both lips approach each other meanwhile the back of the tongue approaches the soft palate, e.g., /w/.
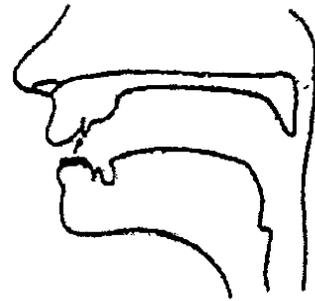/w/ is voiced.
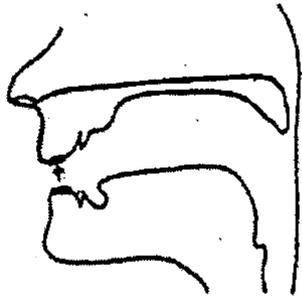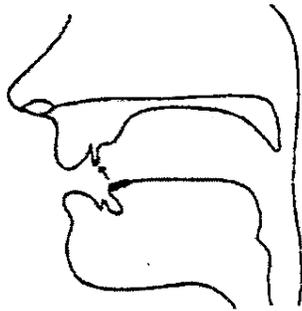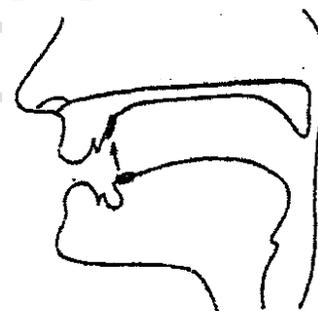
Figure 3.3 Bilabial

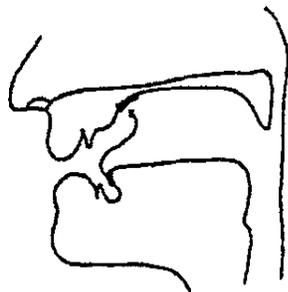Figure 3.4 Labiodental

Figure 3.5 Dental

Figure 3.6 Alveolar

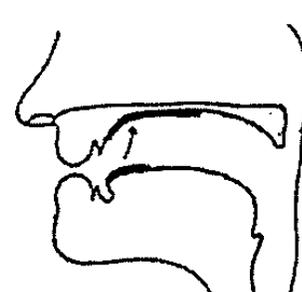Figure 3.7 Postalveolar
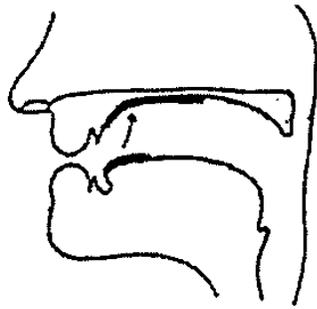
Figure 3.8 Palatal

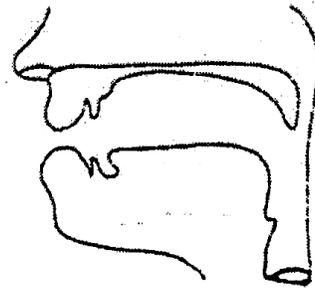Figure 3.9 Velar   Figure 3.10 Glottal

Figure 3.3-3.10
Source: Adapted from Permkasetwit, 2008

Manners of articulation

Manners of articulation refer to how the sound is produced and how the airstream is blocked. It depends on the degrees of closure of the articulators which are complete closure, partial closure, and narrowing closure. The manners of articulation in English are plosive (stop), nasal, fricative, affricate, lateral, and approximant (Kelly, 2013:47; Collins, Mees, & Carley, 2019: 49-54).

1. Plosive/stop

This manner occurs when the airstream is completely stopped by the articulators for a short period. Air pressure increases behind the closure and is then suddenly released through the mouth. At the same time, the velar is raised for blocking the airflow passing through the nasal cavity. The phonemes of plosive are /p/, /b/, /t/, /d/, /k/, and /g/.

- /p/ and /b/ are bilabial plosive with a complete and momentary closure of the airstream at the lips.

- /t/ and /d/ are alveolar plosive with a complete and momentary closure of the airstream at the alveolar ridge.
- /k/ and /g/ are velar plosive with a complete and momentary closure of the airstream at the velum.

There are two types of plosives: aspirated plosive and unaspirated plosive.

1.1 Aspirated plosive

An aspirated plosive is the strong burst of breath which occurs when we released the airflow through the mouth, the puff of air is produced through the mouth at the same time. If you put your hand in front of your mouth and speak, you will feel air puffing out of your mouth. In English, vowels and diphthongs are never aspirated but certain consonants such as /p/, /t/, and /k/ such as pan, tan, can are aspirated. Some sounds produce a puff of air while others do not.

1.2 Unaspirated plosive

Unaspirated plosive occurs when we released the airflow through the mouth, the puff of air is not produced through the mouth at the same time. Unaspirated consonants occur after [s] which starts the same syllable of aspirated consonants. Here are some examples of each type:

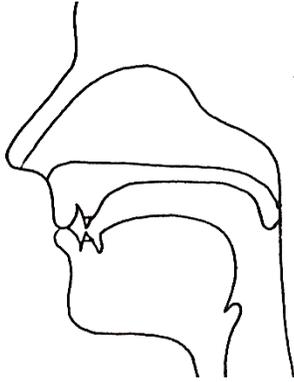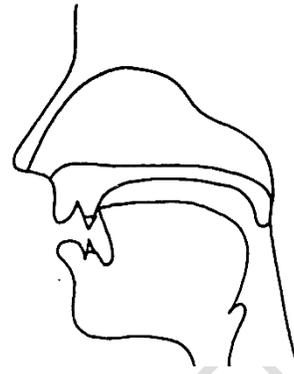| Aspirated consonants	Unaspirated consonants
pin	*spa*
tin	*star*
kin	*scar*

Figure 3.11   Consonant sound
/p/, /b/

Figure 3.12   Consonant sound
/t/, /d/
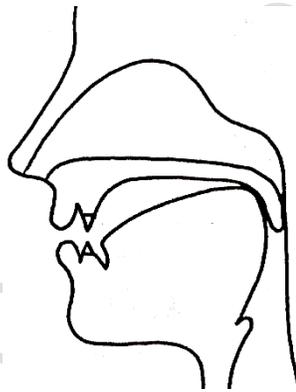
Figure 3.13   Consonant sound
/k/, /g/

2. Nasal

This manner is similar to a plosive that is it occurs when the airstream is completely blocked by the articulators for a short period in the oral cavity and then suddenly released through the mouth. At the same time, unlike the plosive, the soft palate is lowered for allowing the airstream to pass through the nasal cavity and be released through the nose. The phonemes of nasal are /m/, /n/, and /ŋ/.

- /m/ is bilabial nasal. It is created with the velum lowered and a complete closure of the airstream at the lips.

- /n/ is alveolar nasal. It is created with the velum lowered and a complete closure of the airstream at the alveolar ridge.
- /ŋ/ is a velar nasal. It is created with the velum lowered and a complete closure of the airstream at the velum.
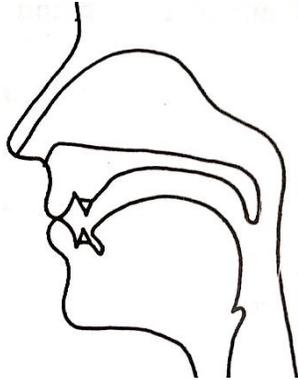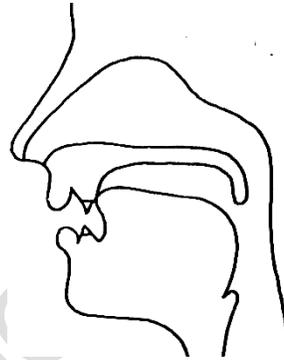

Figure 3.14 Consonant sound /m/

Figure 3.15 Consonant sound /n/
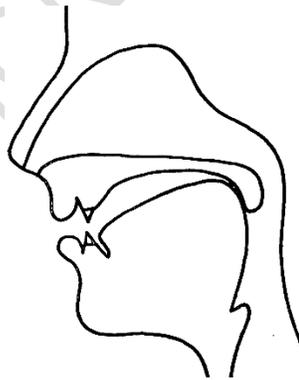
Figure 3.16 Consonant sound /ŋ/

3. Fricative

A fricative is produced when the articulators do not make a complete closure but get close enough so that the airstream is gradually released through the mouth. This airstream passes through a small opening of articulators,

producing audible hiss-like friction, as in English /f/, /v/, /θ/, /ð/, /s/, /z/, /ʃ/, /ʒ/, and /h/

- /f/ and /v/ are labiodental fricative. Friction is created at a narrow opening between the lower lip and the upper teeth.
- /θ/ and /ð/ are dental (or interdental) fricative. Friction is created at a narrow opening between the tongue tip and the teeth.
- /s/ and /z/ are alveolar fricative. Friction is created at a narrow opening between the lower lip and the alveolar ridge.
- /ʃ/ and /ʒ/ are postalveolar fricative. Friction is created at a narrow opening between the tongue tip or blade of the tongue and the rear part of the alveolar ridge.
- /h/ is glottal fricative. Friction is created at a narrow opening between the vocal folds.
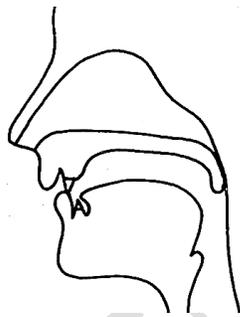
Figure 3.17   Consonant sound
/f/, /v/

Figure 3.18   Consonant sound
/θ/, /ð/
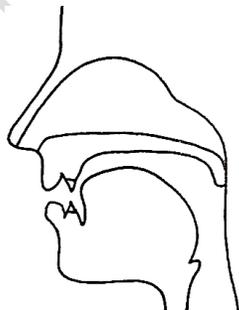
Figure 3.19   Consonant sound
/s/, /z/
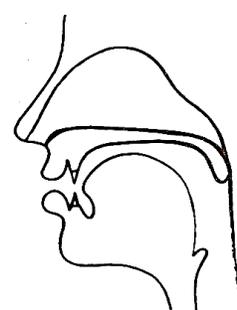
Figure 3.20   Consonant sound
/ʃ/, /ʒ/
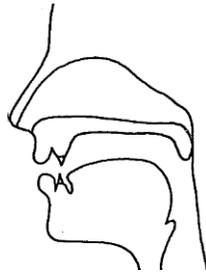
Figure 3.21 Consonant sound
/h/

4. Affricate

An affricate is a sequent combination of a plosive followed by a fricative. It is produced by the airstream is completely stopped for a short period and then gradually released through the mouth. The phonemes of affricate are /tʃ/ and /dʒ/

- /tʃ/ and /dʒ/ are postalveolar affricate with a complete and momentary closure of airstream at the alveolar ridge and then friction is created at a narrow opening between the tongue tip or blade of the tongue and the rear part of alveolar ridge.
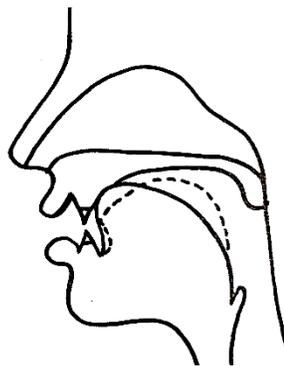
Figure 3.22 Consonant sound
/tʃ/, /dʒ/

5. **Approximant**

Approximant occurs when the active articulator approaches the passive articulator but does not get close or narrow enough to cause friction. It is sometimes called a semivowel or glide which is phonetically like a vowel sound but functions as a consonant. The phonemes of approximant are /w/, /j/, and /ɹ/

- /w/ is labial-velar approximant. It's created by raising the rear of the tongue near the velum and rounding the lips, in a posture that's almost identical to the vowel sound /u:/.
- /j/ is palatal approximant. It's created by raising the back of the tongue near the hard palate, in a position almost like the vowel sound /i:/.
- /ɹ/ is an alveolar approximant. It's produced by raising the tongue tip to approach the alveolar ridge at a very distant distance.

The words commonly spelled with the letter "r" are represented by the phonetic symbol /ɹ/ (alveolar approximant) in a British accent. Nonetheless, in an American accent, this sound is represented by the phonetic symbol /ɻ/ (retroflex approximant), which means that the tongue tip is also rolled backward. It is commonly written /r/ instead of /ɹ/ in the dictionary since it is easier to type although the symbol /r/ is referred to as "ร" (alveolar trill) in Thai. Consequently, if you see the /r/ sound in English words, you should recognize that it is the /ɹ/ sound. (Kitikanan, 2020: 24).
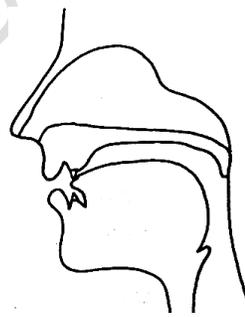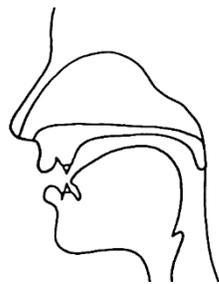
Figure 3.23 Consonant sound /w/   Figure 3.24 Consonant sound /j/
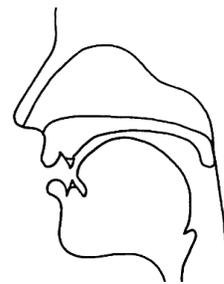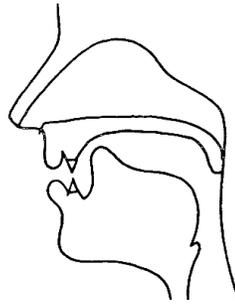
Figure 3.25   Consonant sound
/ɹ/

6. Lateral

This manner is produced by the active articulator touching the passive articulator while the airstream goes out of the mouth on one or both sides of the tongue. The phoneme of lateral is /l/.

- /l/ is lateral approximant. It's produced by the tongue tip touching the alveolar ridge while the air escape through the mouth along the sides of the tongue.
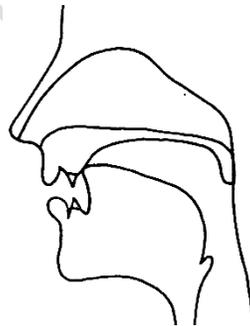
Figure 3.26   Consonant sound
/l/

Figure 3.11-3.26
Source: Adapted from Choticsathien, 2014

Moreover, a trill /r/ and a tap /ɾ/ are manners of articulation that occur in other languages. The active articulators strike the passive articulator with a quick percussive (beating) movement to produce a trill. Alveolar trills (the tongue tip striking the alveolar ridge) and uvular trills (the uvular striking the back of the tongue) are the two most common types of trills in language. In Spanish, an alveolar trill is pronounced, while the uvular trill is occasionally heard in French. A tap is defined as a single fast percussive movement (e.g., one beat of a trill). In many languages having trills, speakers regularly pronounce taps, saving the trill for special occasions (Ronnakiat, 2011: 45; Collins, Mees, & Carley, 2019: 50).

Voicing

In the larynx, two vocal folds can be variously positioned. The gap between the vocal folds is called the glottis. There are many kinds of states of the glottis; however, two main states of the glottis concern the occurrence of voiced and voiceless sounds as follows: (Ronnakiat, 2011: 27; Ariyapitipun, 2015: 28).

1. **Glottis in vibration (Voiced)**

When the vocal folds get closure, and the airstream passes through the small gap of the vocal folds that causes the vocal folds to vibrate. Sounds made with the vocal folds vibrating are called *voiced* sounds. The voiced sounds are /b/, /d/, /ɡ/, /m/, /n/, /ŋ/, /v/, /ð/, /z/, /ʒ/, /dʒ/, /w/, /j/, /ɹ/, and /l/

2. **Open glottis (Voiceless)**

When the airstream passes through the open glottis or open vocal folds freely, the vocal folds will not vibrate. Sounds made without vibrating from the vocal folds are called *voiceless* sounds. Voiceless sounds are /p/, /t/, /k/, /f/, /θ/, /s/, /ʃ/, /tʃ/, and /h/

Summary

The features of pronunciation of the consonant sounds are described in 3 features: *places of articulation* which refer to the places where the airstream is obstructed by two articulators. The different speech sounds are caused by various places: bilabial, labiodental, dental, alveolar, postalveolar, palatal, velar, glottal, and labial-velar. The *manners of articulation*: plosive, nasal, fricative, affricate, approximant, and lateral refer to how the sound is produced, and the airstream is blocked. The last is *voicing*. The vocal folds vibrate very rapidly when an airstream is allowed to pass between them, producing what is termed voice whereas voiceless sounds do not have the vibration of the vocal folds. As mentioned above, if you want to pronounce a single consonant, you must consider the main elements: the place of articulation, manner of articulation, and state of the vocal folds which determines whether the consonant is voiced or voiceless.

Exercises

Exercise 1

Directions: Define the following phonetic symbols by stating the voicing state, the place of articulation, and the manner of articulation.

1) /z/ _____

2) /ʒ/ _____

3) /dʒ/ _____

4) /tʃ/ _____

5) / j / _____

6) / l / _____

7) /ð/ _____

8) /n/ _____

9) /p/ _____

10) /w/ _____

Exercise 2

Directions: Write the phonetic symbols for the sound as described.

1) _____   =   voiced bilabial plosive

2) _____   =   voiced labiodental fricative

3) _____   =   voiceless velar plosive

4) _____   =   voiced velar nasal

5) _____   =   voiceless alveolar fricative

6) _____ = voiced bilabial nasal

7) _____ = voiceless postalveolar fricative

8) _____ = voiced velar plosive

9) _____ = voiceless glottal fricative

10) _____ = voiceless alveolar plosive

Exercise 3

Directions: Write the active articulators and passive articulators for each phoneme.

1) /h/   active articulator = _____

         passive articulator = _____

2) /k/   active articulator = _____

         passive articulator = _____

3) /w/   active articulator = _____

         passive articulator = _____

4) /tʃ/   active articulator = _____

         passive articulator = _____

5) /dʒ/   active articulator = _____

         passive articulator = _____

Chapter 4

English consonant sounds

Consonant sounds are formed by interrupting the airflow by the various articulators. Producing consonant sounds, furthermore, depends on the features of consonant sounds: places of articulation, manners of articulation, and voicing. This chapter describes the characteristics of each phoneme based on the manner of articulations. The description concerns the features mentioned above, including the details and the sample words of each phoneme.

Consonant sounds

In describing English consonant sounds both BBC and NE accents, the 24 phonemes are explained according to the following manners of articulation.

1. Plosive, stop

There are three places of articulation: bilabial, alveolar, and velar for this manner.

Voiceless	*Voiced*
/p/ voiceless bilabial plosive	/b/ voiced bilabial plosive
/t/ voiceless alveolar plosive	/d/ voiced alveolar plosive
/k/ voiceless velar plosive	/g/ voiced velar plosive

Figure 4.1 /p/ and /b/ occur
where the airstream is obstructed at the lips.

Figure 4.2 /t/ and /d/ occur
where the airstream is obstructed
at the alveolar ridge.

Figure 4.3 /k/ and /g/ occur

where the airstream is obstructed at the velum.
Phonemes in this manner occur in three positions:

	/p/	/b/	/t/	/d/	/k/	/g/
Initial position	pin	bin	toy	date	king	give
Middle position	happen	table	little	reindeer	record	begin
Final position	jeep	job	right	kid	pack	beg

English initials /p/, /t/, /k/ are aspirated; but they are unaspirated consonants when immediately following word-initial "s" (Collins, Mees, & Carley, 2019: 65-66).

	Initial syllable (voiceless aspirated)	following word-initials (voiceless unaspirated)
/p/	pin, pen, pan	spa, speak, spy
/t/	tree, tidy, ten	star, style, stay
/k/	key, car, come	scan, sky, ski

However, from the pronunciation mentioned above. There are also observations in pronunciation as follows: (Choticsathien, 2014: 65-82).

***Notice*:**

1. If the letter "n", "t", "s" follows the letter "p" at the beginning of the word, /p/ sound is not pronounced, such as *pneumonia* /njuːˈməʊniə/, *ptyalin* /taɪəlɪn/, *psychic* /ˈsaɪkɪk/.
2. The /p/ sound, when other consonants follow, becomes an unreleased sound, such as *em<u>p</u>ty* (with /t/ sound followed), *na<u>p</u>kin*, and *pum<u>p</u>kin* (with /k/ sound followed).
3. The letter "b" at the end of the syllable is usually not pronounced when following the letter "m", such as *com<u>b</u>* /kəʊm/, *clim<u>b</u>* /klaɪm/, *thum<u>b</u>* /θʌm/, *lam<u>b</u>* /læm/, or when followed by the letter "t", such as *de<u>b</u>t* /det/, *doubt* /daʊt/.

4. /t/ sound will not be pronounced if it follows the letter "s" in the middle of some words, such as *fasten* /ˈfɑːsn/, *listen* /ˈlɪsn/, *Christmas* /ˈkrɪsməs/.

5. /d/ sound will not be pronounced in some words, such as handsome /ˈhænsəm/, Wednesday /ˈwenzdeɪ/.

6. /k/ sound (spelled with the letter "c") is not pronounced when the letter "s" precedes and follows by the letter "e" or "i", such as *scent* /sent/, *scene* /siːn/, *science* /ˈsaɪəns/, *scissors* /ˈsɪzəz/, except *sceptic* /ˈskeptɪk/.

7. /k/ sound is not pronounced when followed with "n", such as *knife* /naɪf/, *knee* /niː/, *knight* /naɪt/, *knowledge* /ˈnɒlɪdʒ/.

8. /g/ sound is not pronounced when follows by the letter "n" at the beginning of the word, such as *gnu* /nuː/, *gnaw* /nɔː/, *gnat*, /næt/, *gnome* /nəʊm/.

9. /g/ sound is not pronounced when followed by the letter "m", "n" at the final of the word, such as *sign* /saɪn/, *reign* /reɪn/, *benign* /bɪˈnaɪn/, *campaign* /kæmˈpeɪn/, *diaphragm* /ˈdaɪəfræm/.

2. Nasal

This manner consists of three places of articulation: bilabial, alveolar, and velar.

Voiced

/m/	voiced bilabial nasal
/n/	voiced alveolar nasal
/ŋ/	voiced velar nasal
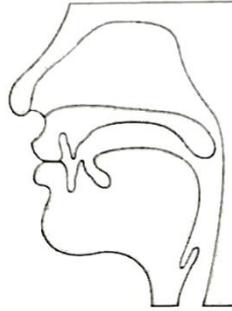
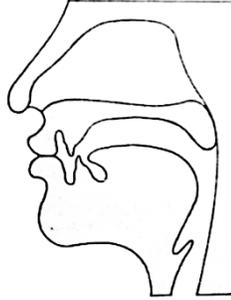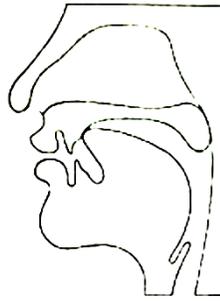Figure 4.4 /m/ occurs
where the airstream is obstructed at the lips.
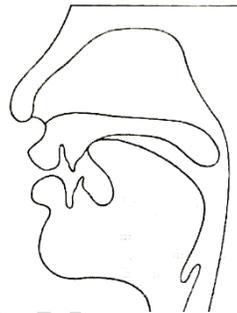
Figure 4.5 /n/ occurs
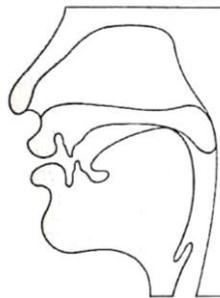where the airstream is obstructed at the alveolar ridge.
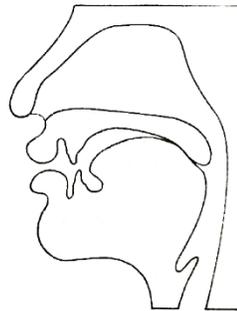
Figure 4.6 /ŋ/ occurs
where the airstream is obstructed at the velum.

Phonemes /m/ and /n/ occur in all positions. On the other hand, phoneme /ŋ/ occurs in the middle position and the final position. It never occurs in the initial position.

	/m/	/n/	/ŋ/
Initial position	mean	near	-
Middle position	among	deny	hanger
Final position	seem	learn	wrong

/m/ and /n/ sounds normally are spelled with letters "m" and "n"; however, /ŋ/sounds are spelled with letters "ng", such as *long*, *ring*, and spelled with letters "nk" such as *link, pink*. Furthermore, when the letter "ng" is appeared in the middle of a word; a root word as a verb, and if we add suffix -er or -ing to the word, the letter "ng" is pronounced to /ŋ/ sound such as *singer* /ˈsɪŋə/, *singing* /ˈsɪŋɪŋ/. On the other hand, if a root word is an adjective, the letter "ng" is pronounced to /ŋ/ sound and followed by /g/ sound such as *stronger* /ˈstrɔːŋgə(r)/, *longer* /ˈlɒŋgə(r)/. In addition, vowels are the nucleus of syllables which consist of the initial consonants and the final consonants; however, in some cases, the consonants can form syllables on their own like /m/, /n/, /l/, (and occasionally /ŋ/) which are called *syllabic consonants* and are shown by a little vertical mark [ˌ] placed beneath the symbol concerned. For the nasal, we called *syllabic nasal* which are shown below (Ronnakiat, 2015: 101-102; Collins, Mees, & Carley, 2019: 17).

Syllabic m   /m̩/

rhythm   /ˈrɪðəm/   ⟹   /ˈrɪðm̩/
bottom   /ˈbɒtəm/   ⟹   /ˈbɒtm̩/

Syllabic n   /n̩/

sudden   /ˈsʌdn̩/
written   /ˈrɪtn̩/
cotton /ˈkɒtn̩/

3. Fricative

Five places of articulation: labiodental, dental, alveolar, postalveolar, and glottal are explained in this manner.

Voiceless	*Voiced*
/f/ voiceless labiodental fricative	/v/ voiced labiodental fricative
/θ/ voiceless dental fricative	/ð/ voiced dental fricative
/s/ voiceless alveolar fricative	/z/ voiced alveolar fricative
/ʃ/ voiceless postalveolar fricative	/ʒ/ voiced postalveolar fricative
/h/ voiceless glottal fricative	
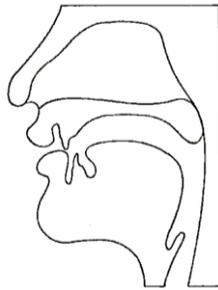
Figure 4.7 /f/ and /v/ occur
where the airstream passes through the narrow channel by
the constriction between the lower lip and upper teeth.
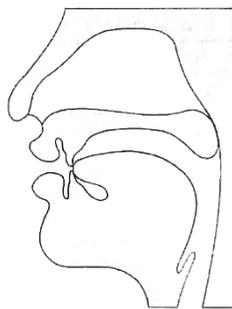
Figure 4.8 /θ/ and /ð/ occur
where the airstream passes through the narrow channel by
the constriction between the tongue tip and the upper teeth.
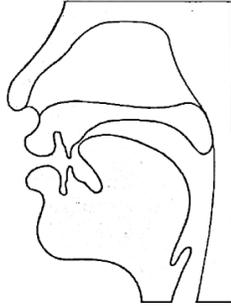
Figure 4.9 /s/ and /z/ occur
where the airstream passes through the narrow channel by
the constriction at the alveolar ridge.
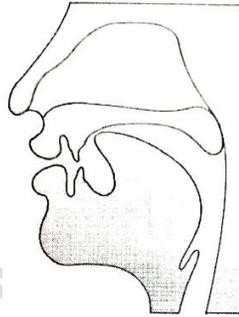
Figure 4.10 /ʃ/ and /ʒ/ occur
where the airstream passes through the narrow channel by
the constriction at the post-alveolar ridge.
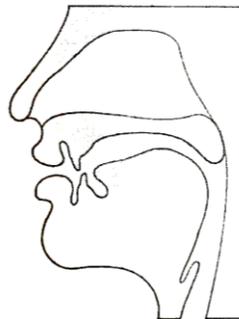
Figure 4.11 /h/ occurs
where the airstream passes through the narrow
channel by the constriction between the vocal cords.

Phonemes in this manner occur in the following positions:

	/f/	/v/	/θ/	/ð/	/s/	/z/
Initial position	fast	vine	thing	the	seal	zoo
Middle position	coffee	heavy	filthy	other	fussy	lazy
Final position	leaf	save	mouth	breathe	rice	rise

	/ʃ/	/ʒ/	/h/
Initial position	sugar	gigolo	hair
Middle position	station	vision	behave
Final position	cash	beige	-

Since both /θ/ and /ð/ are spelled with "th", to distinguish between /θ/ and /ð/ sounds is to follow the specific rules below (Choticsathien, 2014: 92; Collins, Mees, & Carley, 2019: 71).

/th/ is pronounced as /θ/ when it appears as follows:

1. In words that indicate ordinal numbers, such as *forth* /fɔːθ/, *eighth* /eɪtθ/, *twelfth* /twelfθ/.
2. In cardinal numbers, such as *three* /θriː/, *thirteen* /ˌθɜːˈtiːn/, *thirty* /ˈθɜːti/.
3. At the beginning of nouns, verbs, and adjectives.

Noun:	*thigh*	*theory*	*thunder*
	/θaɪ/	/ˈθɪəri/	/ˈθʌndə(r)/
	theme	*thermometer*	
	/θiːm/	/θəˈmɒmɪtə(r)/	

Verb:	*think*	*thank*	*throw*	*thrill*	*thrive*
	/θɪŋk/	/θæŋk/	/θrəʊ/	/θrɪl/	/θraɪv/

Adjective:	*thin*	*thankful*	*thirsty*	*thoughtful*	*thick*
	/θɪn/	/ˈθæŋkfl/	/ˈθɜːsti/	/ˈθɔːtfl/	/θɪk/

/th/is pronounced as /ð/ when it appears as follows:

1. In adjectives or demonstratives, such as *this* /ðɪs/, *that* /ðæt/, *these* /ði:z/, *those* /ðəʊz/.
2. In the initial position of the pronouns, such as *they* /ðeɪ/, *them* /ðəm/, *there* /ðeə(r)/.
3. In connective words or connectors, such as *thus* /ðʌs/, *then* /ðen/, *though* /ðəʊ/, therefore /ˈðeəfɔː(r)/, nevertheless /ˌnevəðəˈles/, furthermore /ˌfɜːðəˈmɔː(r)/

Furthermore, the general rules to figure out the difference between /θ/ and /ð/ sounds are as follows: (Ronnakiat, 2015: 108-109).

1. If the words are nouns, they are pronounced to /θ/ sounds such as bath, cloth, mouth, etc. On the contrary, if the words are verbs, they are pronounced to /ð/ sounds such as to bathe, to clothe, to mouth, etc.
2. If we add a suffix after the words that are pronounced with the /θ/ sound, spelled with "th", and make "th" stand between the vowels, these words will be pronounced from /θ/ sounds change to /ð/ sounds.

/θ/	/ð/
north	northern
south	southern
worth	worthy

3. "th" that stands between the vowels mostly be pronounced to /ð/ sounds such as weather, together, another, father, gather, etc.

4. When nouns pronounced with the /θ/ sound are plural, they will be pronounced to be /ð/ sounds. And morpheme "s" will be pronounced to be /z/ respectively.

/θ/	/ð/ + /z/
mouth	mouths
wreath	wreaths
youth	youths
path	paths

To create fricative sound, the other few points to consider are as follows: (Permkasetwit, 2008: 58; Choticsathien, 2014: 89-99)

Notice:

1. The letters spelled with "gh" and "pph" are pronounced as /f/, such as *rough* /rʌf/, *tough* /tʌf/, *cough* /kɒf/, *laugh* /lɑːf/, *sapphire* /ˈsæfaɪə(r)/.

2. The letters spelled with "ps" are pronounced as /s/, such as *pseudonym* /ˈsuːdənɪm/, *psychology* /saɪˈkɒlədʒi/, *psychiatry* /saɪˈkaɪətri/.

3. The letters spelled with "st" are pronounced as /s/ in the middle of a word, such as *whistle* /ˈwɪsl/, *moisten* /ˈmɔɪsn/, *castle* /ˈkɑːsl/, *hasten* /ˈheɪsn/.

4. The letters spelled with "sw" are pronounced as /s/, such as *sword* /sɔːd/, *answer* /ˈɑːnsə(r)/.

5. The letter "s" is not pronounced, such as *island* /ˈaɪlənd/, *aisle* /aɪl/, *isle* /aɪl/, *viscount* /ˈvaɪkaʊnt/

6. The letters spelled with "cz" are pronounced as /z/, such as czar, czarina.

7. "-s" is pronounced as /s/ when following nouns or verbs with all voiceless final sounds except voiceless final sounds as /s/, /ʃ/, and /tʃ/, such as *hats* /hæts/, *picks* /pɪks/, *months* /mʌnθs/, *ropes* /rəʊps/.

8. "-s" is pronounced as /z/ when following nouns or verbs with all voiced final sounds except voiced final sounds as /z/, /ʒ/, and /dʒ/, such as *bags* /bægs̲/, *dogs* /dɒgs̲/, *leads* /liːds̲/, *hugs* /hʌgs̲/.

9. "-s" is pronounced as /ɪz/ when following nouns or verbs with final sounds as /s/, /ʃ/, /tʃ/, /z/, /ʒ/, /dʒ/, such as *misses* /mɪsɪz̲/, *cashes* /kæʃɪz̲/, *matches* /mætʃɪz̲/, *villages* /ˈvɪlɪdʒɪz̲/, *pages* /peɪdʒɪz̲/, camouflages /ˈkæməflɑːʒɪz̲/.

In addition, phoneme **/ʒ/** is mostly found in the middle and the final position, rarely found in the initial position. One example of the **/ʒ/** sound in the initial position is the word "gigolo" (Ronnakiat, 2015: 119).

4. **Affricate**

There is one place of articulation for this manner, this is postalveolar.

Voiceless
/tʃ/   voiceless postalveolar affricate

Voiced
/dʒ/   voiced postalveolar affricate
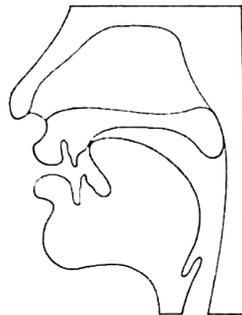
Figure 4.12 /tʃ/ and /dʒ/ occur
where the airstream passes through the narrow channel by
the constriction at the postalveolar.

Phonemes /tʃ/ and /dʒ/ occur in three positions.

	/tʃ/	**/dʒ/**
Initial position	cheer	joke
Middle position	catching	pigeon
Final position	watch	age

Nonetheless, based on the above-mentioned pronunciation. There are also a few points to bear in mind when it comes to pronunciation (Choticsathien, 2014: 115).

***Notice*:**

1. When the letter "t" appears after the letter "s" and is followed by the suffixes *-ion* and *-ian*, it is pronounced as /tʃ/, such as *question* /ˈkwestʃən/, *congestion* /kənˈdʒestʃən/, *digestion* /daɪˈdʒestʃən/ or /dɪˈdʒestʃən/, *Christian* /ˈkrɪstʃən/.

2. When the letter "t" is followed by the suffixes *-ual*, *-ure*, and *-eous*, it is pronounced as /tʃ/, such as *actual* /ˈæktʃuəl/, *factual* /ˈfæktʃuəl/, *culture* /ˈkʌltʃə(r)/, *picture* /ˈpɪktʃə(r)/, *righteous* /ˈraɪtʃəs/.

3. The letter "ch" *is pronounced as* /tʃ/ and /dʒ/ in the word *sandwich* /ˈsænwɪtʃ/, /ˈsænwɪdʒ/

5. Approximant

This manner consists of three places of articulation: labial-velar, alveolar, and palatal.

Voiced

/w/   voiced labial-velar approximant
/ ɹ /   voiced alveolar approximant
/ j /   voiced palatal approximant
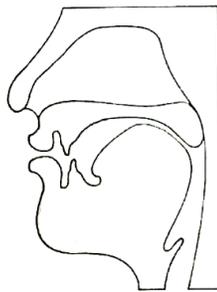
Figure 4.13 /w/ occurs when both lips approach each other
but not narrow enough to create turbulent airflow and, at the same time, the
back of the tongue approaches the soft palate or velum.
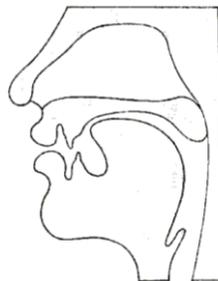
Figure 4.14 / j / occurs when the front of the tongue approaches
the hard palate but not narrow enough to create turbulent airflow.
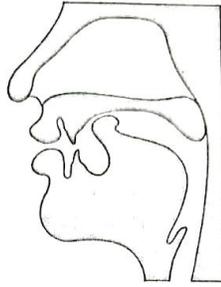
Figure 4.15 / ɹ / occurs when the tip of the tongue
approaches the alveolar ridge but not narrow
enough to create turbulent airflow

	/w/	**/ j /**	**/ ɹ /**
Initial position	win	yard	round
Middle position	twice	value	arrive
Final position	-	-	-

For the approximant, there are also a few points to consider when it relates to pronunciation (Permkasetwit, 2008: 64; Choticsathien, 2014: 142-147).

***Notice*:**
1. The letter "wh" is pronounced as /w/, such as *w̲h̲en* /w̲en/, *w̲h̲ere* /w̲eə(r)/, *w̲h̲eat* /w̲iːt/, *w̲h̲eel* /w̲iːl/.
2. The letter "w" is not pronounced, such as *w̲rist* /rɪst/, *w̲rong* /rɒŋ/, *tw̲o* /tuː/, *sw̲ord* /sɔːd/, *answ̲er* /ˈɑːnsə(r)/
3. The /w/ sound is not pronounced in the letters "ow", such as *ow̲e* /əʊ/, *flow̲er* /ˈflaʊə(r)/, *gow̲n* /gaʊn/, *tow̲er* /ˈtaʊə(r)/, *allow̲* /əˈlaʊ/, *slow̲* /sləʊ/.
4. The /w/ sound is not pronounced in the letters "aw", such as *daw̲n* /dɔːn/, *law̲n* /lɔːn/, *faw̲n* /fɔːn/, *paw̲n* /pɔːn/,
5. /w/ sound appears in some words without the letter w, such as *one* /w̲ʌn/, *once* /w̲ʌns/, *suite* /sw̲iːt/.

6. The words pelled with "qu" are pronounced as /kw/, such as *queen* /<u>kw</u>iːn/, *equal* /ˈiː<u>kw</u>əl, /*quick* /<u>kw</u>ɪk/, *quite* /<u>kw</u>aɪt/, *question* /ˈ<u>kw</u>estʃən/.

7. The words pelled with "gu" are pronounced as /gw/, such as *language* /ˈlæŋ<u>gw</u>ɪdʒ/, *distinguish* /dɪˈstɪŋ<u>gw</u>ɪʃ/, *extinguish* /ɪkˈstɪŋ<u>gw</u>ɪʃ/, *guava* /ˈ<u>gw</u>ɑːvə/.

8. The letter "eu" or "u" at the beginning of a word may be pronounced as /juː/ or /jʊ/, such as *eunuch* /ˈ<u>ju</u>ːnək/, *Europe* ˈ<u>jʊ</u>ərəp/, *European* /,<u>jʊ</u>ərəˈpiːən/

9. In addition, /j/ appears in the second position of a cluster when it occurs after plosive, nasal, and fricative (/f/, /v/, /h/) sounds such as

few	/ˈfjuː/	*new	/ˈnjuː/
view	/ˈvjuː/	*due	/ˈdjuː/
queue	/ˈkjuː/	*tune	/ˈtjuːn/
huge	/ˈhjuːdʒ/	pure	/ˈpjʊə(r)/

American speakers do not pronounce /j/ sound for the words
*new, *due, *tune, so they pronounce these words to be
/ˈnjuː/, /ˈdjuː/, and /ˈtjuːn/ respectively (Ronnakiat, 2015:138).

10. The letter "rh" or "wr" at the beginning of a word are pronounced as /ɹ/, such as *rhythm* /ˈ<u>r</u>ɪðəm/, *rhinoceros* /<u>r</u>aɪˈnɒsərəs/, *write* /<u>r</u>aɪt/, *wreck* /<u>r</u>ek/, *wrong* /<u>r</u>ɒŋ/.
    (It is commonly written /r/ instead of /ɹ/ in the dictionary.)

Phonemes /w/ and /j/ occur in the initial position and the middle position. They never occur in the final position. In pronouncing the **/ɹ/** sound, however, there are two kinds of accents:

1) **Rhotic accent** or R-pronouncing accent – **/ɹ/** is pronounced in every position: <u>r</u>ed, dai<u>r</u>y, ca<u>r</u>

2) **Non-rhotic accent** or Non-r-pronouncing accent – **/ɹ/** is pronounced in syllable-initial position (<u>r</u>ed, <u>r</u>ead, <u>r</u>aw),

intervocalic position (ba<u>rr</u>el, be<u>rr</u>y, pi<u>r</u>ate), but not postvocalic position (after a vowel and not followed by another vowel).

A rhotic English speaker pronounces the words *car* and *letter* as /ˈkɑ:r/ and /ˈletər/, whereas a non-rhotic speaker deletes the /r/ sound, pronouncing them as /ˈkɑ:/ and /ˈletə/. A non-rhotic speaker usually pronounces the /ɹ/ sound in the phrase "far away" (the linking R), since the /ɹ/ is followed by a vowel in this case. BBC accent tends to be non-rhotic while NE accent tends to be rhotic (Ronnakiat, 2015: 134; Collins, Mees, & Carley, 2019: 75).

6. Lateral

There is one place of articulation for this manner, this is alveolar.

Voiced

/l/   voiced alveolar lateral
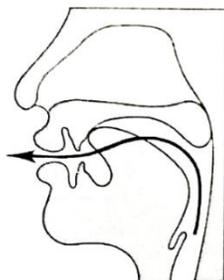
Figure 4.16 /l/ occurs where
the airstream is obstructed at the alveolar.

Figure 4.1-4.16
Source: Adapted from Kelly, 2013

Phoneme /l/ occurs in three positions.

/l/

Initial position   learn
Middle position   believe
Final position   meal

Phonemes /l/ is divided into two categories:

1) **Clear l** (or light l) occurs at the beginning of the word or before a vowel sound.

live	loose	loud	polo	complex
leaf	late	click	splash	killing

or before the glide

million	/ˈmɪljən/
billiard	/ˈbɪljərd/

2) **Dark l** occurs at the end of the word or after a vowel sound.

all	call	full	tail	feel
bill	sell	tool	real	pole

or before a consonant

milk	help	film	salt	elbow
melt	self	field	cold	build

When pronouncing *clear l*, the tongue tip touches the alveolar ridge and release the airflow through one or both side of the tongue. This happens before vowel sounds. The process of pronouncing dark l and clear l is the same; however, to generate *dark l*, while the tongue tip touches the alveolar ridge, the back of the tongue is lifted towards the soft palate at the same time. This happens after vowel sounds and before consonant sounds (Kelly, 2013: 52; Collins, Mees, & Carley, 2019: 73).

As mentioned above that the consonants can form syllables on their own like /m/, /n/, and /l/ which are called *syllabic consonants*. For the lateral, the examples of syllabic l are shown below (Ronnakiat, 2015: 131).

Syllabic l   / l̩ /

apple	/ˈæpl̩ /	table	/ˈteɪbl̩ /
trouble	/ˈtrʌbl̩ /	pencil	/ˈpensl̩ /

Besides, there are some words in that /l/ sound that is silent such as

talk	/ˈtɔːk/	could	/ˈkəd/
chalk	/ˈtʃɔːk/	walk	/ˈwɔːk/

Summary

How to pronounce each phoneme depends on the features of pronunciation: places of articulation, manners of articulation, and voicing. Learners will be able to name each phoneme along with pronouncing it correctly. Furthermore, the word examples illustrate in which each phoneme is positioned as well as how to pronounce particular letters or words that have some constraints, allowing learners to understand the principles regulating the use of sounds in spoken English, improving learners' English pronunciation, recognizing the speech sounds and using them appropriately.

Exercises

Exercise 1

Directions: Write the phonetic symbols for the bold letters in the following words.

1) re**c**ord _____   11) villa**ge** _____

2) scrip**t** _____   12) campai**gn** _____

3) **g**ive _____   13) **th**us _____

4) ha**ng** _____   14) nor**th**ern _____

5) **m**ean _____   15) **j**oke _____

6) **wr**ong _____   16) wat**ch** _____

7) **th**umb _____   17) vi**s**ion _____

8) lau**gh** _____   18) cul**t**ure _____

9) **sc**ent _____   19) **h**oney _____

10) **kn**ife _____   20) stoma**ch** _____

Exercise 2

Directions: Write the active articulators and passive articulators for the sounds of the bold letters.

1) **m**easure   active articulator   = _____

                       passive articulator   = _____

2) **ph**oto   active articulator   = _____

		passive articulator	=	_____
3)	**sh**ore	active articulator	=	_____
		passive articulator	=	_____
4)	**kn**ee	active articulator	=	_____
		passive articulator	=	_____
5)	**g**inger	active articulator	=	_____
		passive articulator	=	_____

Exercise 3

Directions: Circle the words that begin with the following sounds

1) bilabial sound

   mat   sock   pie   kick   buy

2) labiodental sound

   voice   sun   fight   that   van

3) dental sound.

   high   throw   much   thy   thus

4) alveolar sound.

   day   sand   kind   shoe   leave

5) postalveolar sound.

   joke   cheer   sugar   year   zoo

6) palatal sound.

    neck   yellow   shine   ring   yacht

7) velar sound.

    table   king   push   great   kitchen

8) glottal sound.

    rough   hire   world   hungry   mother

9) labial-velar sound.

    one   wine   victory   video   once

Chapter 5

Classifications of vowel sounds

Vowels, unlike consonants, are produced when the airstream flows without any obstruction of the articulators, so it is an oral sound. Vowel sounds are voiced, that is the vocal cords are vibrating while making them. Vowels, furthermore, are the nucleus or the center of the syllables because they are surrounded by consonants. When we pronounce the words, the consonants do not have many sounds of their own, but we can hear the words because of the vowel sounds to which they attach.

English vowel sounds

The English vowels consist of *monophthongs*, which consist of 7 short vowels and 5 long vowels, 8 *diphthongs*, and 3 *triphthongs* as follows: (Yiemkuntitavorn, 2013: 90-96; Ronnakiat, 2015: 57)

1. Monophthongs are single vowels articulated without changing in quality throughout a syllable. When we pronounce single vowels, the tongue remains in an unchanging position. Monophthongs can be divided into 2 types: *short vowels* and *long vowels*. Long vowels are pronounced somewhat longer than short vowels and a colon is used to illustrate a long vowel, e.g., /iː/, /uː/, /ɔː/, /ɜː/

Short vowels		Long vowels	
/ɪ/	hit	/iː/	seat
/e/	head	/ɑː/	car
/æ/	fan	/ɔː/	born
/ʌ/	rug	/uː/	fruit
/ɒ/	pot	/ɜː/	learn
/ʊ/	should		
/ə/	doc<u>tor</u>		

2. Diphthongs are the combination of two pure vowels made by the tongue that moves or glides continuously from one vowel position to another vowel position within the same syllable. The first sound in each phoneme is longer and louder than the second in English (Kelly, 2013: 34). Diphthongs are divided into 2 kinds: *closing diphthongs* and *centering diphthongs*. The closing diphthong is a diphthong sound in which the second vowel is closer than the first vowel because the tongue moves from an open vowel to a closer vowel position, while the centering diphthong is the sound in which the second vowel is more central than the first vowels because the tongue moves towards the central vowel (Mustikareni, 2013). The English language contains eight diphthongs, which can be categorized into 2 groups: closing diphthongs, and centering diphthongs. Closing diphthongs end with a glide towards /ɪ/ or towards /ʊ/. The glide is towards a higher position in the mouth. Centering diphthongs end with a glide towards /ə/. They are called 'centering' because /ə/ is a central vowel.

Closing diphthongs		Centering diphthongs	
/eɪ/	cake	/ɪə/	dear
/aɪ/	buy	/eə/	where
/ɔɪ/	toy	/ʊə/	tour
/əʊ/	no		
/aʊ/	cow		

3. Triphthongs is a sequence of three vowels making up one syllable, such as

/aɪə/	tyre, fire
/aʊə/	shower, power

Classification of vowel sounds

Vowel are produced when the airstream is voiced through the vocal folds or vocal cords in the larynx, and the airstream is then molded using the tongue and lips to affect the overall form of the mouth. The position of

the tongue is a helpful reference point for describing the variations between vowel sounds, as shown in the diagram below.
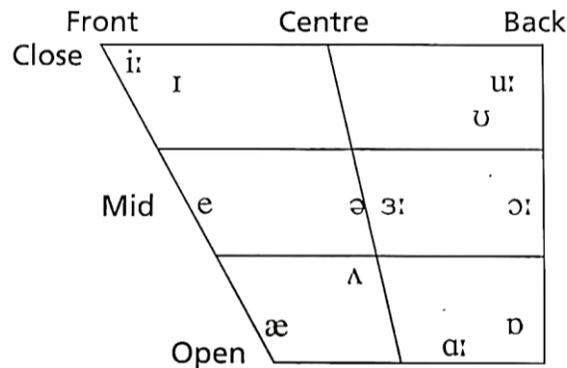
Figure 5.1 Monophthongs and diphthongs
Source: Adapted from Kelly, 2013

The figure 5.1 represents the position of monophthongs and diphthongs where vowel sounds are articulated. Moreover, the articulation of vowels concerns 4 aspects: tongue position, tongue height, lip position, and tenseness (Permkasetwit, 2008: 27-29; Choticsathien, 2014: 20; Ronnakiat, 2015: 86-87).

1. Tongue position

The tongue position is divided into 3 parts: *the front of the tongue*, *the back of the tongue*, and *the central part of the tongue* are as follows:

1) The front of the tongue is opposite the hard palate. Front vowels, pronounced with the front part of the tongue, are /i:/, /ɪ/, /e/, and /æ/.

2) The back of the tongue is opposite the soft palate. Back vowels, pronounced with the back part of the tongue, are /u:/, /ʊ/, /ɔ:/, /ɒ/, and /ɑ:/.

3) The central part of the tongue is opposite the jointed part between the hard palate and the soft palate. Central vowels, pronounced with the central part of the tongue, are /ə/, /ɜ:/, and /ʌ/.

2. Tongue height

Tongue height can be divided into 4 levels: *close position*, *close-mid position*, *open-mid position*, and *open position*. Moreover, the vowels are divided into 3 aspects: *high vowels* or *close vowels*, *mid vowels*, and *low vowels* or *open vowels*.

1) High vowels or close vowels are produced with the tongue raised in a high or close position. They are /i:/, /ɪ/, /ʊ/, and/u:/.

2) Mid vowels are produced when the tongue is raised in a position between the close-mid position and open-mid position. They are /e/, /ə/, /ɜ:/, and /ɔ:/.

3) Low vowels or open vowels are produced when the tongue remains in a low or open position. They are /æ/, /ʌ/, /ɑ:/, /ɒ/.

3. Lip position

Lip position is divided into 3 aspects: *rounded*, *unrounded* or *spread*, and *neutral* (Kelly, 2013: 30).

1) Rounded vowels are produced with rounded lips, the lips are pushed forward in a circle form, such as /u:/, /ʊ/, /ɒ/, and /ɔ:/.

2) Unrounded vowels are made with the spread or unrounded lips, the lips' corners are shifted away from each other, such as /i:/, /ɪ/, /e/, /æ/.

3) Neutral vowels concerned with the lips are neither rounded nor spread out in any way, such as /ə/, /ɜ:/, /ʌ/, /ɑ:/

There is a relationship between tongue height and lip position. The different degrees of tongue height correspond to the various degrees of mouth openness (Stewart & Vaillette, 2001); for instance, if we pronounce the vowels in *read* /i:/, *red* /e/, and *rat* /æ/, the tongue is raised in a high vowel /i:/; a little lower in a mid-vowel /e/; and even lower in a low vowel /æ/. Agree with the lip position, the mouth is open a little wider when we pronounce by changing the vowel from /i:/ to /e/, and more a little wider when we change from /e/ to /æ/.

4. Tenseness

In American English, vowels are described in types of tense vowels and lax vowels. *Tense* and *lax* are terms used to describe the muscle tension required to create vowels. Tense vowels are articulated with greater muscular effort in the oral cavity. The tongue is farther from the center of the mouth (the center is the tongue's rest or relaxed position), necessitating more muscle tension to achieve and maintain these positions, such as /i:/, /ɑ:/, /ɔ:/, /ɜ:/, /u:/, /eɪ/, /ʊə/. In contrast, in producing lax vowels, the tongue moves toward a more central position, and the muscles of the tongue are relaxed such as /ɪ/, /e/, /æ/, /ʊ/, /ə/. Moreover, the schwa /ə/ can be a tense vowel when it is pronounced in stressed syllables (Jones, 1997; Lane, 2010). For example,

Tense vowel	Lax vowel
/i:/ leave	/ɪ/ hit
/u:/ fruit	/ʊ/ should
/eɪ/ cake	/e/ head

Characteristics of vowel sounds

The characteristics of vowel sounds illustrated how the tongue position, tongue height, lip position, and tenseness all work together. The properties of monophthongs are described first, followed by those of diphthongs (Yiemkuntitavorn, 2013: 90-96; Kelly, 2013: 32-36).

1. Characteristics of monophthongs
1.1 Close vowels

For close vowels, the tongue is quite high in the mouth. They are /i:/, /ɪ/, /ʊ/, and /u:/ as follows:
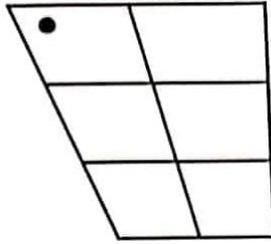
Figure 5.2 /iː/

When pronouncing /iː/, the front of the tongue is slightly behind and below the close front position. The lips are spread, and the tongue has become tense.
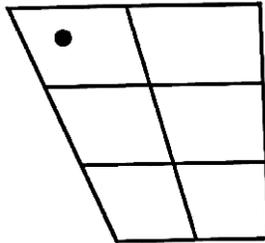
Figure 5.3 /ɪ/

When pronouncing /ɪ/, the front of the tongue is raised to just above the close-mid position (not as high as /iː/). The lips are loosely spread, and the tongue is more relaxed.
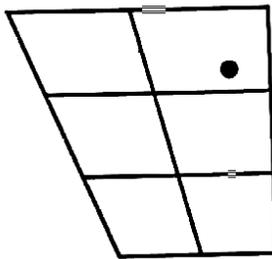
Figure 5.4 /ʊ/

When pronouncing /ʊ/, the back of the tongue is just behind the center and is raised to just above the close-mid position. The lips are loosely rounded, and the tongue is relaxed.
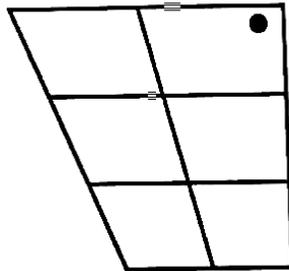
Figure 5.5 /u:/

When pronouncing /u:/, the back of the tongue is raised just below the close position. The lips are rounded, and the tongue is tense.

1.2 Mid vowels

For mid vowels, the tongue is neither high nor low in the mouth. They are /e/, /ə/, /ɜ:/, and /ɔ:/as follows:
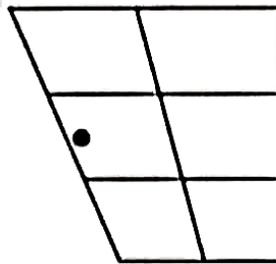
Figure 5.6 /e/

When pronouncing /e/, the front of the tongue is between the close-mid and the open-mid position. The lips are spread, and the tongue is relaxed.
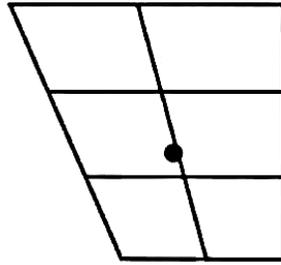
Figure 5.7 /ə/

When pronouncing /ə/, the central part of the tongue is between the close-mid and the open-mid position. The lips are neutrally spread, and the tongue is relaxed.
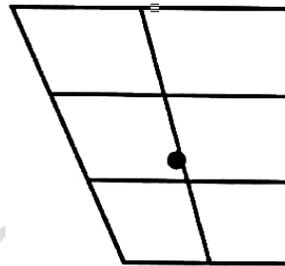
Figure 5.8 /ɜ:/

When pronouncing /ɜ:/, the center of the tongue is between the close-mid and the open-mid position. The lips are neutrally spread, and the tongue is tense.
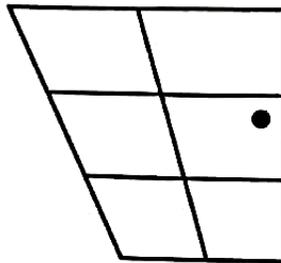
Figure 5.9 /ɔ:/

When pronouncing /ɔ:/, the back of the tongue is raised between the close-mid and the open-mid position. The lips are rounded, and the tongue is tense.

1.3 Open vowels

For open vowels, the tongue is low in the mouth. They are /æ/, /ʌ/, /ɑ:/, and /ɒ/ as follows:
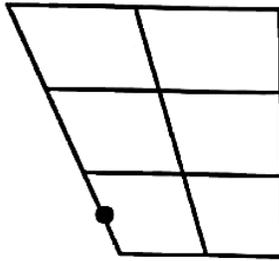
Figure 5.10 /æ/

When pronouncing /æ/, the front of the tongue is raised to just below the open-mid position. The lips are neutrally spread, and the tongue is relaxed.
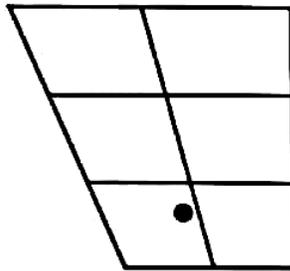
Figure 5.11 /ʌ/

When pronouncing /ʌ/, the center of the tongue is raised to just above the open position. The lips are neutrally open, and the tongue is relaxed.
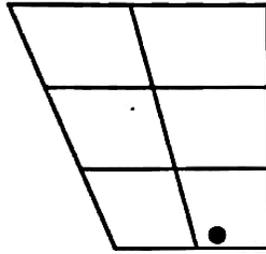
Figure 5.12 /ɑ:/

When pronouncing /ɑ:/, the back of the tongue is above the open position. The lips are neutrally open, and the tongue is tense.
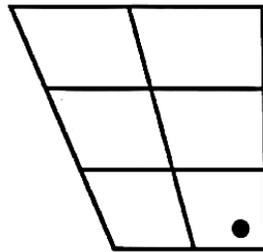
Figure 5.13 /ɒ/

When pronouncing /ɒ/, the back of the tongue is above the open position. The lips are slightly rounded, and the tongue is relaxed.

2. Characteristics of diphthongs

2.1 Closing diphthongs

Closing diphthongs end with a glide towards /ɪ/ or towards /ʊ/. They are /eɪ/, /aɪ/, /ɔɪ/, /əʊ/, and /aʊ/.
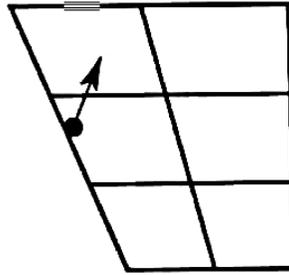
Figure 5.14 /eɪ/

When pronouncing /eɪ/, the glide begins in the position for /e/, and moves up and slightly back towards /ɪ/. The lips are spread.
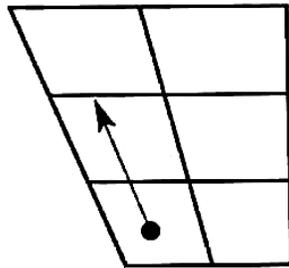
Figure 5.15 /aɪ/

When pronouncing /aɪ/, the glide begins in the position for /aː/, between front and center in an open position, moving up and slightly forward towards /ɪ/. The lips move from neutral to spread.
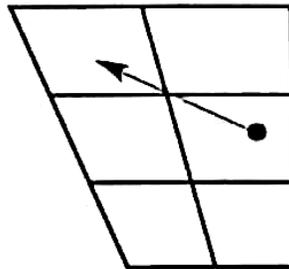
Figure 5.16 /ɔɪ/

When pronouncing /ɔɪ/, the glide begins in the position for /ɔ:/, moving up and forward towards /ɪ/. The lips move from rounded to spread.
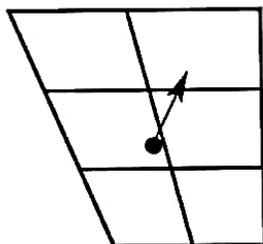
Figure 5.17 /əʊ/

When pronouncing /əʊ/, the glide begins in the position for /ə/, and moves up and back towards /ʊ/. The lips move from neutral to loosely rounded.
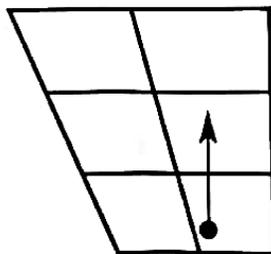
Figure 5.18 /aʊ/

When pronouncing /aʊ/, the glide begins in the position for /a:/, moving up towards /ʊ/. The lips move from neutral to round.

2.2 Centering diphthongs

Centering diphthongs end with a glide towards /ə/. They are /ɪə/, /eə/, and /ʊə/.
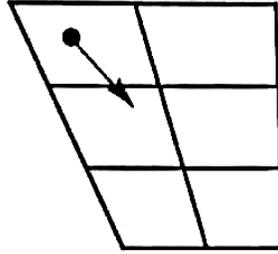
Figure 5.19 /ɪə/

When pronouncing /ɪə/, the glide begins in the position for /ɪ/, moving down and back towards /ə/. The lips move from spread to neutrally open.
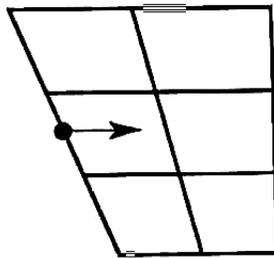
Figure 5.20 /eə/

When pronouncing /eə/, the glide begins in the position for /e/, moving back towards /ə/. The lips remain neutrally open.
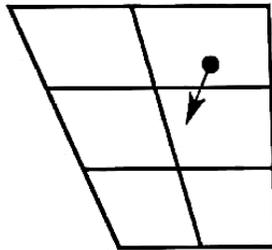
Figure 5.21 /ʊə/

When pronouncing /ʊə/, the glide begins in the position for /ʊ/, moving forward and down towards /ə/. The lips move from loosely rounded to neutrally open.

Figure 5.2.- 5.21
Source: Adapted from Kelly, 2013

Summary

Vowel sounds are sounds that are produced airflow without the obstruction of speech organs or oral friction. The vocal cords vibrate during vowel pronunciation. Vowel sounds are so voiced, and vowels are the nucleus of words. A single vowel can be a meaningful word, but it can't be a complete word if consonants are combined without vowels. Tongue position, tongue height, lip position, and tenseness are the four main vowel classifications. Furthermore, vowels are divided into three groups: monophthongs, which include seven short vowels and five long vowels, diphthongs, which include five closing diphthongs, and three centering diphthongs, and two triphthongs. To pronounce vowels in each voice, the position of the vowels is different, with each vowel sound being the synergy of tongue position, tongue height, lip position, and tenseness. Learning vowels and the position of vowels will allow learners to pronounce each vowel correctly and communicate effectively.

Exercises

Exercise 1

Directions: Fill in the blank with the correct answer.

/aʊ/	/ɔ:/	/eɪ/	/ɪ/	/ʊə/	/ʌ/
/u:/	/əʊ/	/ə/	/æ/	/i:/	/ɪə/
/e/	/ʊ/	/ɔɪ/	/ɑ:/	/eə/	/ɒ/
/aɪ/	/aɪə/	/ɜ:/	/aʊə/		

1) Short vowels

   _____

2) Long vowels

   _____

3) Closing diphthongs

   _____

4) Centering diphthongs

   _____

Exercise 2

Directions: Describe the characteristics of the following phonemes based on the features of vowel sound: tongue height, tongue position, and lip position

1) /æ/

_____

_____

_____

_____

2) /ʊə/

_____

_____

_____

_____

3) /ɔɪ/

_____

_____

_____

_____

Exercise 3

Directions: Transcribe the following vowels.

1) born   _____

2) piece   _____

3) soup   _____

4) late   _____

5) could   _____

6) bill   _____

7) lock   _____

8) hare   _____

9) head   _____

10) man   _____

11) hug   _____

12) about   _____

13) go   _____

14) pour   _____

15) fierce   _____

16) coin   _____

17) cake   _____

18) wear   _____

19) town   _____

20) fight   _____

Chapter 6

English vowel sounds

Vowels, in addition to consonants, are a crucial sound in pronunciation because they are the core of words. The main aspects of vowel pronunciation are tongue height, tongue position, and lip position. When comparing vowel sounds in Thai and English, the Thai vowel system was found to have more phonemes than the English vowel system, and some English vowel sounds are not present in Thai. In addition, the nature of spelling or writing English letters is quite complicated, and some vowel sounds are spelled with different letters; for example, the vowel sound /e/ can spell with the letters "e", "a", and "u" in the words *bed*, *any*, and *bury*. Furthermore, the same letter can be spelled with different sounds, such as the letter "a" being spelled with the /ɑ:/ sound in the word *car*, /ɔ:/ sound in the word *tall*, and /æ/ sound in the word *man*. The use of phonetic symbols aids in the precise pronunciation of English vowels and eliminates pronunciation uncertainty.

English phonology includes monophthongs, which are comprised of 7 short vowels and 5 long vowels, as well as 8 diphthongs, and there are no short vowels and long vowels as a minimal pair (Permkasetwit, 2008: 30-41; Yiemkuntitavorn, 2013: 90-96; Kelly, 2013: 31-36; Ronnakiat, 2015: 58-91).

Monophthongs

1. Short vowels

1.1 /ɪ /

In pronouncing /ɪ /, the front of the tongue is raised above the close-mid position, but not as high as /i:/. The side tongue is raised to touch the teeth on the sides. the tongue is more relaxed. The lips are loosely spread but not as widely spread as for /i:/.

/ɪ / sound can be spelled with the following letters:

i :	h<u>i</u>t, s<u>i</u>x, k<u>i</u>d, b<u>i</u>ll
e :	<u>e</u>xpect, pr<u>e</u>tty, <u>e</u>xcuse
a :	priv<u>a</u>te, vill<u>a</u>ge, coll<u>e</u>ge, saus<u>a</u>ge
u :	b<u>u</u>sy, lett<u>u</u>ce, b<u>u</u>siness
y :	cit<u>y</u>, s<u>y</u>stem, ph<u>y</u>sics
ui:	g<u>ui</u>tar, b<u>ui</u>ld, bisc<u>ui</u>t

/ɪ / is the short vowel. However, when a word comes with /ɪ / and is followed by a voiced consonant, the sound for /ɪ / is longer than when the word begins with a voiceless consonant, for example, the word "kid" is pronounced longer than the word "kit".

Thai people are quite a trouble pronouncing this sound. Most of them raise their tongues to imitate the vowel " อี " in Thai pronunciation, however, they have to lower their tongues slightly when pronouncing this sound.

1.2 /e/

In pronouncing /e/, the front of the tongue is between the close-mid and the open-mid position. The side tongue is raised to touch the teeth on the sides. The tongue is relaxed but less than for /ɪ /, and the lips are loosely spread but more open than pronouncing /ɪ /.

/e / sound can be spelled with the following letters:

e :	r<u>e</u>d, d<u>e</u>bt, <u>e</u>xit
a :	m<u>a</u>ny, <u>a</u>ny, Th<u>a</u>mes
u :	b<u>u</u>ry
ea :	h<u>ea</u>d, w<u>ea</u>ther, pl<u>ea</u>sant
ue :	g<u>ue</u>ss, g<u>ue</u>st
ie :	fr<u>ie</u>nd
ei :	l<u>ei</u>sure
ai :	s<u>ai</u>d, ag<u>ai</u>n
eo :	l<u>eo</u>pard

/e / is the short vowel. However, when a word comes with /e / and is followed by a voiced consonant, the sound for /e / is longer than when the word begins with a voiceless consonant, for example, /e / in "led" is longer than /e / in "let" because /d/ is voiced, but /t/ is voiceless.

This vowel sound appears in some English words with two letters, such as head, friend, and weather, leading to a misunderstanding that it is a diphthong when it is a monophthong.

1.3 /æ/

In pronouncing /æ/, the front of the tongue is raised to just below the open-mid position and just behind the lower front teeth. The lips are neutrally spread, and the tongue is relaxed.

/æ/ sound can be spelled with the following letters:

a :   apple, habit, salmon
ai :   plaid, plait
ua :   guarantee

/æ/ is the short vowel. If /æ/ is followed by a voiced consonant, the sound for /æ/ is longer than when followed by a voiceless consonant. For example, /æ/ in "man" is longer than /æ/ in "mat" because /n/ is voiced, but /t/ is voiceless.

This vowel occurs only with the closed syllable or the syllable that ends with a consonant sound.

1.4 /ʌ/

In pronouncing /ʌ/, the center of the tongue is raised to just above the open position. The lips are neutrally open, and the tongue is relaxed.

/ʌ/ sound can be spelled with the following letters:

a :   was, what (in American English)
o :   love, nothing, government

u : st<u>u</u>dy, d<u>u</u>ll, b<u>u</u>tton
oe : d<u>oe</u>s
oo : bl<u>oo</u>d, fl<u>oo</u>d
ou : t<u>ou</u>gh c<u>ou</u>ple, s<u>ou</u>thern, tr<u>ou</u>ble,

This sounds similar to the Thai vowel "อะ" and "อ̂". However, Thai employs a tongue that is more forward. When Thai people pronounce /ʌ/, they tend to say the Thai vowel "อะ" instead. To pronounce it correctly, a central tongue is required to pronounce this sound.

1.5 /ɒ/

In pronouncing /ɒ/, the back of the tongue is above the open position. The lips are slightly rounded, and the tongue is relaxed.

/ɒ/ sound can be spelled with the following letters:

a : w<u>a</u>s, wh<u>a</u>t, w<u>a</u>tch
o : g<u>o</u>ne, m<u>o</u>dern, h<u>o</u>liday
au : bec<u>au</u>se, s<u>au</u>sage
ou : c<u>ou</u>gh,
ow : kn<u>ow</u>ledge

The vowel /ɒ/ occurs only with the closed syllable or the syllable that ends with a consonant sound. Moreover, in the Southwestern United States and Canada, when people pronounce this sound, they say it in various ways:

Pronouncing as /ʌ/ sound, such as *was*, *what*
Pronouncing as /ɑ:/ sound, such as *watch*, *modern*, *holiday*,
                     knowledge, *cauliflower*
Pronouncing as /ɔ:/ sound, such as *dog*, *gone*, *because*,
                     sausage,*cough*, *Australia*

1.6 /ʊ/

In pronouncing /ʊ/, the back of the tongue is just behind the center and is raised high to just above the close-mid position, but not so high as it is for /u:/. The lips are slightly rounded, and the tongue is relaxed.

/ʊ/ sound can be spelled with the following letters:

u : s<u>u</u>gar, f<u>u</u>ll, p<u>u</u>ll
o : w<u>o</u>lf, w<u>o</u>man
oo : g<u>oo</u>d, st<u>oo</u>d, w<u>oo</u>l, w<u>oo</u>d
ou : c<u>ou</u>ld, sh<u>ou</u>ld, w<u>ou</u>ld

/ʊ/ is the short vowel. However, when /ʊ/ is followed by a voiced consonant, the sound for /ʊ/ is longer than when followed by a voiceless consonant. For instance, /ʊ/ in "pull" is longer than /ʊ/ in "put" because /l/ is voiced, but /t/ is voiceless.

The problem is that most Thais pronounce vowels /ʊ/ in long sounds, especially words spelled with "oo" or "ou" because they think it is a long vowel.

1.7 /ə/

In pronouncing /ə/, the central part of the tongue is between the close-mid and the open-mid position. The lips are neutrally spread, and the tongue is relaxed.

/ə/ sound can be spelled with the following letters:

i : poss<u>i</u>ble, horr<u>i</u>ble, vis<u>i</u>ble
e : wom<u>e</u>n, childr<u>e</u>n, brok<u>e</u>n
a : <u>a</u>lone, <u>a</u>mong, <u>a</u>bout, postm<u>a</u>n
o : <u>o</u>ccur, c<u>o</u>llect, kingd<u>o</u>m
u : <u>u</u>ntil, yog<u>u</u>rt, s<u>u</u>ccess, foc<u>u</u>s
ar : particul<u>ar</u>, popul<u>ar</u>, sug<u>ar</u>

er : sist<u>er</u>, teach<u>er</u>, farm<u>er</u>

or : doct<u>or</u>, auth<u>or</u>, col<u>or</u>, err<u>or</u>

ou : fam<u>ou</u>s, nerv<u>ou</u>s, jeal<u>ou</u>s

our : col<u>our</u>

ure : fig<u>ure</u>, pict<u>ure</u>

/ə/ sound occurs in various positions of words, and it is produced in unstressed syllables.

2. Long vowels

2.1 /i:/

In pronouncing /i:/, the front of the tongue is raised very high, slightly behind and below the close front position. The lips are spread, and the tongue has become tense.

/i:/ sound can be spelled with the following letters:

i : rout<u>i</u>ne, pol<u>i</u>ce, mach<u>i</u>ne

e : b<u>e</u>, th<u>e</u>se, compl<u>e</u>te

ee : b<u>ee</u>n, kn<u>ee</u>, sl<u>ee</u>p, cant<u>ee</u>n

ea : t<u>ea</u>, s<u>ea</u>, rep<u>ea</u>t, l<u>ea</u>ve

ei : rec<u>ei</u>ve, c<u>ei</u>ling, rec<u>ei</u>pt

eo : p<u>eo</u>ple

ey : k<u>ey</u>

ie : f<u>ie</u>ld, mov<u>ie</u>, br<u>ie</u>f

ae : C<u>ae</u>sar

/i:/ is a long vowel, thus the sound is longer when appears in an open syllable without spelling, such as *tea*, *key*, or in a closing syllable that ends with a voiced consonant sound, such as *been*, *feed*, but vowels are shortened when occurring in a syllable that spelled with voiceless sounds, such as *beat*, *feet*, *beef*.

2.2 /ɑː/

In pronouncing /ɑː/, the back of the tongue is above the open position. The lips are neutrally open, and the tongue is tense.

/ɑː/ sound can be spelled with the following letters:

a   :   b<u>a</u>th, p<u>a</u>ss, f<u>a</u>ther
ar   :   <u>ar</u>m, p<u>ar</u>k, st<u>ar</u>t, m<u>ar</u>ch
al   :   c<u>al</u>m, p<u>al</u>m, h<u>al</u>f
au   :   <u>au</u>nt, l<u>au</u>gh
er   :   cl<u>er</u>k, s<u>er</u>geant
ear :   h<u>ear</u>t

This sound is similar to the Thai vowel "อะ" or "อา". However, in Thai, this sound is spoken with the front tongue, whereas in English, it is pronounced with the back tongue, and in American English, it is pronounced this sound as /æ/.

2.3 /ɔː/

In pronouncing /ɔː/, the back of the tongue is raised between the close-mid and the open-mid position. The lips are rounded, and the tongue is tense.

/ɔː/ sound can be spelled with the following letters:

a   :   s<u>a</u>lt, t<u>a</u>lk, w<u>a</u>ter
au   :   c<u>au</u>se, <u>au</u>thor, d<u>au</u>ghter
aw   :   s<u>aw</u>, l<u>aw</u>n, l<u>aw</u>yer
oa   :   <u>oa</u>r, b<u>oa</u>rd, br<u>oa</u>d
or   :   b<u>or</u>n, h<u>or</u>se, sw<u>or</u>d
ough :   <u>ough</u>t, b<u>ough</u>t, th<u>ough</u>t,
oor   :   d<u>oo</u>r, fl<u>oo</u>r, p<u>oo</u>r
ore   :   m<u>ore</u>, bef<u>ore</u>
our   :   f<u>our</u>, c<u>our</u>t

When /ɔ:/ is followed by a voiced consonant, it is longer than when followed by a voiceless consonant. For example, /ɔ:/ in "nod" is longer than /ɔ:/ in "not" because /d/ is voiced, but /t/ is voiceless.

This has a similar sound to the Thai vowel "ออ". To pronounce the /ɔ:/ sound correctly, the tongue must be raised higher than pronouncing the Thai vowel.

2.4 /u:/

In pronouncing /u:/, the back of the tongue is raised just below the close position. The lips are rounded, and the tongue is tense.

/u:/ sound can be spelled with the following letters:

o	:	t<u>o</u>, m<u>o</u>ve, wh<u>o</u>m
u	:	comp<u>u</u>ter, st<u>u</u>dent, J<u>u</u>ne
eu	:	f<u>eu</u>d, n<u>eu</u>tral, pn<u>eu</u>matic
ew	:	n<u>ew</u>, ch<u>ew</u>, thr<u>ew</u>
oo	:	z<u>oo</u>, f<u>oo</u>d, t<u>oo</u>th, c<u>oo</u>l
ou	:	y<u>ou</u>, s<u>ou</u>p, gr<u>ou</u>p
oe	:	sh<u>oe</u>, can<u>oe</u>
ue	:	bl<u>ue</u>, gl<u>ue</u>, tr<u>ue</u>
ui	:	fr<u>ui</u>t, s<u>ui</u>t, j<u>ui</u>ce

/u:/ is a long vowel, thus the sound is longer when appears in an open syllable, without spelling, such as *blue*, *zoo*, or in a closing syllable that ends with a voiced consonant sound, such as *room*, *food*, but vowels are shortened (not as short as /ʊ/) when occurring in a syllable that spelled with voiceless sounds, such as *group*, *suit*, *fruit*.

2.5 /ɜ:/

In pronouncing /ɜ:/, the center of the tongue is between the close-mid and the open-mid position. The lips are neutrally spread, and the tongue is tense.

/ɜ:/ sound can be spelled with the following letters:

er : h<u>er</u>, c<u>er</u>tain, t<u>er</u>m
ir : g<u>ir</u>l, sh<u>ir</u>t, b<u>ir</u>d
or : w<u>or</u>k, w<u>or</u>d, w<u>or</u>th
ur : b<u>ur</u>n, n<u>ur</u>se, p<u>ur</u>r, ch<u>ur</u>ch
yr : m<u>yr</u>tle
ear : <u>ear</u>ly, l<u>ear</u>n, <u>ear</u>th
err : <u>err</u>
our : j<u>our</u>ney, j<u>our</u>nal, c<u>our</u>tesy

/ɜ:/ sound is like the Thai vowel "เออ". However, in Thai, this sound is spoken with the back tongue, whereas in English, it is pronounced with the central tongue.

Diphthongs

1. Closing diphthongs

1.1 /eɪ/

In pronouncing /eɪ/, the glide begins in the position for /e/, and moves up and slightly back towards /ɪ/. The lips are spread.

/eɪ/ sound can be spelled with the following letters:

a : c<u>a</u>ke, m<u>a</u>ke, l<u>a</u>dy
ai : <u>ai</u>m, r<u>ai</u>n, w<u>ai</u>t
ay : d<u>ay</u>, l<u>ay</u>, m<u>ay</u>
ea : br<u>ea</u>k, gr<u>ea</u>t, st<u>ea</u>k
ei : <u>ei</u>ght, v<u>ei</u>l, w<u>ei</u>ght
ey : wh<u>ey</u>, th<u>ey</u>

/eɪ/ is the diphthong that does not appear in the Thai sound system; however, when Thais tend to pronounce this sound using the Thai monophthong "เอ" instead. Although this sound begins with /e/, as does the Thai sound, people should always say /ɪ/ to complete the diphthong, which Thais sometimes overlook.

1.2 /aɪ/

In pronouncing /aɪ/, the glide begins in the position for /a:/, between front and center in an open position, moving up and slightly forward towards /ɪ/. The lips move from neutral to spread.

/aɪ/ sound can be spelled with the following letters:

i	:	d<u>i</u>ve, f<u>i</u>ve, <u>i</u>sland
y	:	b<u>y</u>, cr<u>y</u>, tr<u>y</u>
ie	:	die, pie, tie
ei	:	<u>ei</u>ther, n<u>ei</u>ther
ye	:	b<u>ye</u>, d<u>ye</u>
uy	:	b<u>uy</u>
igh	:	h<u>igh</u>, l<u>igh</u>t, f<u>igh</u>t
eigh	:	h<u>eigh</u>t

The sound /aɪ/ is longer when appears in an open syllable, without spelling, such as *pie*, *tie*, or in a closing syllable that ends with a voiced consonant sound, such as *dive*, *five*, but vowels are shortened when occurring in a syllable that spelled with voiceless sounds, such as *pipe*, *like*, *wife*.

The sound /aɪ/ is similar to words spelled with Thai vowels, "ไอ" or "อาย", such as the word in "ใน" or "นาย". However, the difference is that in Thai, this sound is only produced in an open syllable without a spell. While it is most common in English when it occurs in open syllables without spelling, such as *buy*, *dye*, in closed syllables with spelling, such as *time*, *five*, and a cluster sound at the final position, such as *kind*, *mind*. It will not be difficult for Thais to pronounce words that are formed just in an open syllable; however,

they have difficulty pronouncing words with final sounds because the Thai system lacks the final sounds for this vowel. For example, Thai people tend to pronounce the words "my" and "mind" to be the same as /maɪ/. As a result, it leads to misunderstanding.

1.3 /ɔɪ/

In pronouncing /ɔɪ/, the glide begins in the position for /ɔ:/, moving up and forward towards /ɪ/. The lips move from rounded to spread.

/ɔɪ/ sound can be spelled with the following letters:

<blockquote>
oi   :   <u>oi</u>l, c<u>oi</u>n, j<u>oi</u>n, v<u>oi</u>ce, av<u>oi</u>d
oy   :   b<u>oy</u>, t<u>oy</u>, enj<u>oy</u>, ann<u>oy</u>, <u>oy</u>ster
</blockquote>

The sound /ɔɪ/ is similar to words spelled with Thai vowels; however, the difference is that in Thai, this sound is only produced in an open syllable without a spell. While it is most common in English when it occurs in open syllables and closed syllables, such as *oil*, and *coin*. Thais have difficulty pronouncing words with final sounds, for example, Thais tend to pronounce the words "joy" and "join" to be the same as /dʒɔɪ / which is confusing in terms of meaning.

1.4 /əʊ/

In pronouncing /əʊ/, the glide begins in the position for /ə/, and moves up and back towards /ʊ/. The lips move from neutral to loosely rounded.

/əʊ/ sound can be spelled with the following letters:

<blockquote>
o   :   g<u>o</u>, n<u>o</u>, c<u>o</u>ne, c<u>o</u>ke
oa   :   <u>oa</u>k, r<u>oa</u>d, b<u>oa</u>t
oe   :   t<u>oe</u>, h<u>oe</u>, f<u>oe</u>
ou   :   s<u>ou</u>l, p<u>ou</u>ltry, sh<u>ou</u>lder
ow   :   sl<u>ow</u>, sh<u>ow</u>, kn<u>ow</u>
ough :   th<u>ough</u>, d<u>ough</u>, alth<u>ough</u>
</blockquote>

In an American accent, this vowel begins with the back of the tongue raised and moving higher to the sound of /ʊ/. While the British accent starts with a raised central tongue to the /ʊ/ sound. Thai people will have difficulty pronouncing this sound since they prefer to pronounce it as a pure vowel.

1.5 /aʊ/

In pronouncing /aʊ/, the glide begins in the position for /a:/, moving up towards /ʊ/. The lips move from neutral to round.

/aʊ/ sound can be spelled with the following letters:

ou :   c<u>ou</u>nt, l<u>ou</u>d, s<u>ou</u>nd
ow :   n<u>ow</u>, c<u>ow</u>, t<u>ow</u>n

The sound /aʊ/ is similar to words spelled with Thai vowels "เอา"; however, the difference is that in Thai, this sound is only produced in an open syllable without a spell. While it can occur in open syllables, such as *now*, *cow*, and inclosed syllables, such as *town*, *gown*, and *south*. As a result, Thais have difficulty pronouncing words with final sounds. Thai people, for example, pronounce the word "town" as /taʊ/ rather than /taʊn/ which is incorrect.

2. Centering diphthongs

2.1 /ɪə/

In pronouncing /ɪə/, the glide begins in the position for /ɪ/, moving down and back towards /ə/. The lips move from spread to neutrally open.

/ɪə/ sound can be spelled with the following letters:

ea   :   id<u>ea</u>, r<u>ea</u>l,
eer   :   d<u>eer</u>, car<u>eer</u>, ch<u>eer</u>

<div align="center">

ere :   h<u>ere</u>, m<u>ere</u>

ear :   d<u>ear</u>, h<u>ear</u>, cl<u>ear</u>

eir :   h<u>eir</u>, w<u>eir</u>, w<u>eir</u>d

ir :   fak<u>ir</u>

ier :   f<u>ier</u>ce, p<u>ier</u>ce

</div>

/ɪə/ is similar to words spelled with Thai vowels "เอียะ" or "เอีย". However, Thais have to practice pronouncing words with final sounds.

2.2 /eə/

In pronouncing **/eə/**, the glide begins in the position for /e/, moving back towards /ə/. The lips remain neutrally open.

/eə/ sound can be spelled with the following letters:

<div align="center">

a :   M<u>a</u>ry, S<u>a</u>rah

air :   <u>air</u>, f<u>air</u>, ch<u>air</u>

are :   c<u>are</u>, d<u>are</u>, sp<u>are</u>

ear :   b<u>ear</u>, w<u>ear</u>, p<u>ear</u>

ere :   th<u>ere</u>, wh<u>ere</u>

eir :   h<u>eir</u>, th<u>eir</u>

</div>

Thai people tend to pronounce /eə/ similarly if that was the Thai vowel "แอ" which is a pure vowel, while the sound /eə/ in English is a diphthong, which the Thai sound system does not include. As a result, the majority of Thais still mispronounce this vowel. Thus, this vowel pronunciation must be specially practiced.

2.3 /ʊə/

In pronouncing /ʊə/, the glide begins in the position for /ʊ/, moving forward and down towards /ə/. The lips move from loosely rounded to neutrally open.

/ʊə/ sound can be spelled with the following letters:

u	:	d<u>u</u>ring, c<u>u</u>rious
ure	:	s<u>ure</u>, c<u>ure</u>, p<u>ure</u>
oor	:	m<u>oor</u>, p<u>oor</u>
our	:	d<u>our</u>, t<u>our</u>

Thai people tend to pronounce /ʊə/ similarly if that was the Thai vowel "อัวะ" or "อัว" When pronouncing this sound, /j/ sound is pronounced in the second position of a cluster when it occurs after plosive, nasal, and fricative (only /f/, /v/, /h/) sounds such as pure /pjʊə/, few /ˈfju:/, queue /ˈkju:/. Most Thai people do not pronounce /j/ because this sound does not appear in the Thai sound system, Thus we must practice the pronunciation of this vowel.

Summary

Vowels are speech segments that are produced without an interruption in the airstream. Vowel sounds are created by vibrating the vocal cords, hence most English vowels are phonetically voiced. Sometimes two vowel sounds combine to form a single gliding sound called a diphthong. Besides, small changes in the position of the tongue (front, center, rear) and the shape of the lips (spread, neutral, rounded) produce different vowel sounds. We can also learn about the characteristics of each vowel sound, the phonetic symbols, example words, and the pronunciation issues that Thais encountered. Although there is a lot of variance in vowel sounds (such as *bath* pronounced as /bɑ:θ/ in British English and /bæθ/ in American English), learners accept some variation without too much trouble, and the trained ear learners can certainly cope with a wide range of variation.

Exercise

Exercise 1

Directions: Underline the words with the same vowel sound as the given phonetic symbols.

/æ/	1)	plait	head
/ɒ/	2)	tough	cough
/aʊ/	3)	toast	bough
/ɜ:/	4)	myrtle	class
/ʊə/	5)	tour	pour
/ʌ/	6)	nourish	hearth
/ɪə/	7)	where	beard
/ɔ:/	8)	snore	front
/eə/	9)	vein	chair
/ʊ/	10)	good	food

Exercise 2

Directions: Circle the words with a different vowel sound.

1)	bead	key	live	leave
2)	book	fruit	push	should
3)	soup	food	fruit	good
4)	head	late	left	said

5)	shirt	her	word	board
6)	pour	tour	horse	door
7)	beer	wear	here	beard
8)	way	cake	say	egg
9)	tall	doll	pour	bought
10)	go	boat	home	bow

Exercise 3

Directions: Write two English words that have the same following sounds.

1)	/ɪ/	_____	_____
2)	/ə/	_____	_____
3)	/ɑ:/	_____	_____
4)	/eɪ/	_____	_____
5)	/e/	_____	_____
6)	/ɜ:/	_____	_____
7)	/ɪə/	_____	_____
8)	/əʊ/	_____	_____
9)	/u:/	_____	_____
10)	/eə/	_____	_____

Chapter 7
Stress and intonation

Stress, which happens at the word level, is important because it alters the grammatical meanings and functions of words when it is placed in different positions. When it appears in phrases or sentences, it is called *rhythm* which does not stress every word, but only particular types of words. Additionally, the pitch is significant. It is called tone if the pitch occurs at the word level, while it is called *intonation* if the pitch occurs at the phrase or sentence level and serves to affect the grammatical meaning or reflect the speakers' emotions and attitudes.

Stress

Stress is the emphasis of each syllable in each word or sentence. In English, syllables in a word or sentence are accented unequally. Syllables that have been accentuated more than other syllables are called *stressed syllables*; on the other hand, syllables that are not stressed or lighter than other syllables are called *unstressed syllables*. In addition, stress is classified into 2 types: word stress and sentence stress

1. Word Stress

All stress syllables have one characteristic in common, that is prominence. They are recognized as prominent because they have the following characteristics: (Yiemkuntitavorn, 2013: 99-100; Ronnakiat, 2015: 151).

1. Stress syllables are pronounced with a greater amount of energy than unstressed syllables.

2. Vowel sounds in stressed syllables are longer than the vowels of unstressed syllables.

3. The pitch in the stressed syllables is higher than the pitch in unstressed syllables.

On the contrary, the unstressed syllables have the following characteristics:

1. The sound of the whole syllable is light.
2. The vowel sounds of the syllables are shortened.
3. Vowel sounds in unstressed syllables change to /ə/ or /ɪ /
4. Vowel sounds may disappear when they are in front of consonants /n/ or /l/ where /n/ or /l/ will be pronounced as syllabic

For words with multiple stressed syllables, furthermore, there is one syllable with a heavier emphasis than the other, the syllables that are pronounced the heaviest. It is called *primary stress* using the marker / ́/ whereas the syllable with secondary accent pronunciation. It is called *secondary stress* using the marker / ˆ/ (Pullum & Ladusaw, 1986). However, in the dictionary, the secondary stress marker / ˌ / is used instead. For example,

academic	ˌacádemic
Japanese	ˌJapánese
organization	ˌorganízation
demonstration	ˌdemónstration

However, the word-level stress can fall on the first, middle, or last syllables of words. To determine which syllable will be stressed, consider the following rules: (Dauer, 1993; Yiemkuntitavorn, 2013: 101-104; Ronnakiat, 2015: 156-159)

1. Nouns with 2 syllables stress the first syllable of a word, such as

́window	́doctor
́flower,	́picture

But some nouns stress the second syllable, such as

Japán	machíne	invént

2. The combination of two nouns always stresses the first syllable, such as

ˈbookstore   ˈnotebook

ˈtoothbrush   ˈtable

3. The combination of verbs and nouns often stresses verbs, such as

ˈwalking stick   ˈliving room   ˈrunning shoes

4. The combination of adjectives and nouns often stresses adjectives, such as

ˈblackboard   ˈbluebird

5. Verbs with 2 syllables mainly stress the second syllable that acts as the root word, such as

perˈform   preˈvent   beˈgin

6. The combination of adjectives and past participle stresses past participle, such as

short-ˈcut   hot-ˈpainted   well-ˈdone

7. Do not stress the prefix words, such as

deˈsign   reˈsult

exˈcuse   surˈprise

8. Stress the suffix words that end with -ee, -eer, -ese, -ette, -ique, -ain, such as

-ee	traiˈnee	emploˈyee
-eer	ˌvolunˈteer	ˌengiˈneer
-ese	Chiˈnese	ˌJapaˈnese
-ette	casˈsette	ˌcigaˈrette
-ique	techˈnique	anˈtique
-ain	enterˈtain	cerˈtain

9. Words ending with the suffix -tion, -sion, -ic, -ial, -ual, -ient, -ian, -cian, -ous, -eous, -cious, -ical, -ify, -itive, -tude, -meter, -logy,   -graphy, -meter stress the syllable before the suffix, such as

-tion	ˌorganiźation	ˌdemoństration
(except the word -- ´television, ´intersection)		
-sion	admíssion	discússion
-ic	fantástic	ˌacádemic
(except the word -- ´Arabic, ´politics, aŕithmetic)		
-ial	commércial	mémorial
-ual	ˌindívidual	intellectual
-ient	efficient	impatient
-ian	ˌvegétarian	muśician
-cian	eˌlectŕician ˌ	polítician
-ous	´nervous	´jealous
-eous	´courteous	spońtaneous
-cious	delícious	suśpicious
-meter	párameter	kílometer
-logy	bíology	ˌsocíology
-graphy	geógraphy	photógraphy

10. Words ending with the suffix -cy, -ly, -fy, -ty, -gy, -phy, -try, -ate, -ize, -ary, when counting from the last syllable to the third syllable, the third syllable is stressed, such as *efficiency*, *´carefully*, *´classify*, *comḿunity*, *techńology*, *geógraphy*, *géometry*, *apṕropriate*, *ápologize*, *´salary*

11. For the words ending with self and selves, stress on these ending words, such as *myśelf*, *themśelves*

In Addition, there are two syllables in English, if it stresses the first syllable, the word acts as a noun or adjective, but if it stresses the second

syllable, it acts as a verb, and the unstressed syllable changes the vowels to /ə/ or /ɪ / as in the following example: (Ariyapitipun, 2015: 64-65).

	Noun/Adjective	**Verb**
absent	/ˈæbsənt/	/əbˈsent/
addict	/ˈædɪkt/	/əˈdɪkt/
compress	/ˈkɒmpres/	/kəmˈpres/
contract	/ˈkɒntrækt/	/kənˈtrækt/
contrast	/ˈkɒntrɑːst/	/kənˈtrɑːst/
export	/ˈekspɔːt/	/ɪksˈpɔːt/
object	/ˈɒbdʒekt/	/əbˈdʒekt/
permit	/ˈpəmɪt/	/pəˈmɪt/
present	/ˈpreznt/	/prɪˈzent/
produce	/ˈprɒdjuːs/	/prəˈdjuːs/
progress	/ˈprəʊgres/	/prəˈgres/
record	/ˈrekɔːd/	/rɪˈkɔːd/
segment	/ˈsegmənt/	/segˈment/
survey	/ˈsɜːveɪ/	/səˈveɪ/

Furthermore, three syllables in English with the aforementioned characteristics are as follows:

	Noun/Adjective	**Verb**
intimate	/ˈɪntɪmət/	/ɪntɪˈmeɪt/
moderate	/ˈmɒdərət/	/mɒdəˈreɪt/
envelop	/ˈenvələp/	/ɪnˈveləp/
separate	/ˈseprət/	/seˈpreɪt/
supplement	/ˈsʌplɪmənt/	/sʌplɪˈment/
compliment	/ˈkɒmplɪmənt/	/kɒmplɪˈment/

2. Sentence Stress

Accenting words at the sentence level stresses only the words that want to highlight or express meaning. Insignificant words in sentences also reduce pronunciation by speaking rather quickly. In that phrase or sentence, the words that are stressed are called *content words*: nouns, main verbs, adjectives, adverbs, demonstratives, negative auxiliary verbs, numbers, and wh-questions. The content words have their meanings, and the meanings of the words can be found in the dictionary. On the other hand, the words that are not stressed are called *function words* or *grammatical words*: pronouns, prepositions, articles, conjunctions, and auxiliary verbs. These kinds of words have no content or meaning significance but function to complete the structure. (Dauer, 1993; Permkasetwit, 2008: 97-98; Yiemkuntitavorn, 2013: 103-105).

Table 7.1 Content words and function words

Content words		Function words	
Nouns	table, town, office, homework	Pronouns	I, you, we, they, him, her, our
Main verbs	eat, went, known, has to, jogging,	Prepositions	in, on, at, under, from, to, of, by
Adjectives	big, small, red, nice, round	Articles	a, an, the, some
Adverb	now, well, once, hard, often,	Conjunctions	and, or, nor, but, for, so, who, as, where, which, if
Demonstratives	this, that, these, those	Auxiliary verbs	is, am, was, were, can, could, must,
Negative auxiliary verbs	isn't, aren't, don't, can't, won't		

Content words		Function words	
Numbers	one, two, three, four, five, six		
Wh-questions	what, when, why who, how, where		

Source: Adapted from Yiemkuntitavorn, 2013

Exception:

1. Be and have, when acting as main verbs, are content words, but are not stressed in sentences, such as:

   I *am* a **teacher**.
   Linda *has* a lovely **cat**.

2. Auxiliary verbs are stressed at the end of a sentence or in a tag question, such as d

   Study as **hard** as you *can*.
   Susan is not **rich**, *is* she?

3. Two-word verbs, such as turn on, put on, take off, pick up, etc. stress on the latter, except if there is a noun or a pronoun inserted in the middle, both words are stressed, such as

   She turns *on* the **light**.
   I *picked* you *up* in the **afternoon**.

4. Two-syllable prepositions stress the first syllable, such as *along*, *after*, *into*, and *during*.

5. The conjunction is always stressed at the beginning of the sentence, such as

>***When*** the doorbell rang, my dog barked loudly.
>***Although*** she was exhausted, sleep didn't come.

Moreover, if the speaker wants to emphasize the meaning of a particular word, it can be stressed. Despite that, it's a word that doesn't have to be stressed, such as

>**David** is **go**ing to **London** ***next*** **week**.
>**This** is ***my*** **computer.**

The first sentence emphasizes the word "next" to reiterate that he is going to next week, not another week, and sentence 2, emphasizes the word "my" to indicate that this computer belongs to me, not someone else's.

Rhythm

Rhythm refers to the number of stresses in a phrase or sentence. *Stress-timed rhythm* or isochrony is found in languages such as English, German, Russian, and Arabic. It is claimed that in such languages, stresses occur at regular intervals within connected speech, and the length of an utterance is determined by the number of stresses rather than the number of syllables. The time taken for the utterance is proportional to the number of stressed syllables. To achieve the regular stress intervals, unstressed syllables are shortened, and vowels lose their purity, with many tending towards /ə/, and others towards /ɪ/ or /ʊ/.

On the other hand, *syllable-timed rhythm* is found in languages such as Spanish, French, Italian, Korean, Japanese, and Cantonese. In syllable-timed rhythm, each syllable in an utterance has an approximately equal rhythmic beat, syllable length is maintained, and vowels are maintained. The time it takes to produce an utterance is related to the number of syllables it contains. (Lane, 2010: 48; Kelly, 2013: 70). For example,

Syllable-timed rhythm (Japanese)
Nani o shite imasu ka　　(9)
0　0　0　0　0　0　0　0　0

Stress-timed rhythm (English)
What are you doing?　　(5/2)
0　　○　　○　0　○

　　　　The circles beneath each sentence in the figure above denote the relative stress imposed on each syllable, while the numbers in parenthesis denote the total number of syllables and the number of stressed syllables. As a result, the stresses in Japanese are relatively equal, and each syllable takes about the same amount of time. In English, on the other hand, there are two sets of syllables, each of which has one stressed syllable, and each of which is nearly equal in length. In the case of Japanese, if the number of syllables is more, the utterance will take longer to complete. In English, if the number of stressed syllables remains constant, the amount of time spent uttering a larger number of syllables tends to remain constant.

Weak forms and strong forms

　　　　Several English terms have both a *strong form* and a *weak form*. These words are mostly function words that fill between content words and grammatically complete sentences.　For example, the word "can" and "for" can act as a strong form and a weak form (Kelly, 2013: 73).

　　Jack *can* /kən/ run faster than I *can* /kæn/.

　　　　(For the word "can", the first is the *weak form*, and the second one

　　　　 is the *strong form*.)

　　I'm looking *for* /fə/ my friends. Who are you looking *for* /fɔː/?

　　　　(For the word "for", the first is the *weak form*, and the second one

　　　　 is the *strong form*.)

The weak form and the strong form of grammatical categories: verbs, personal pronouns, prepositions, conjunctions, articles, and indefinite adjectives are illustrated in the following table 1 (Kelly, 2013: 74; Ronnakiat, 2015: 174-185).

Table 7.2 The weak forms and the strong forms of grammatical category

Grammatical category	Word	Full form	Weak form	Example of a weak form
Auxiliary verbs	Am	Æm	əm	I *am* leaving tomorrow.
	Is	ɪz	əz	She *is* my best friend.
	Are	ɑ:	ə	What *are* you doing?
	Was	wɒz	wəz	The weather *was* very nice.
	Were	wɜ:	wə	They *were* smart.
	Do	du:	də*	Where *do* they come from?
			dʊ*	Why *do* all birds have beaks?
	Does	dʌz	dəz	Where *does* she live?
	Have	Hæv	əv	Where *have* you been?
	Has	Hæz	əz	He *has* a sense of humor.
	Had	Hæd	əd	I've *had* a headache all day.
	Can	Kæn	kən	What *can* I do for you?
	Could	kʊd	kəd	I *could* speak Chinese.
	Would	wʊd	wəd	What *would* you like to drink?
	Shall	ʃæl	ʃəl	We *shall* go to the park later.
	Should	ʃʊd	ʃəd	You *should* drink warm water.
	Must	mʌst	məs*	He *must* go now.
			məst*	You *must* eat more.
Personal pronouns	You	ju:	jʊ, jə	What do *you* like?
	Your	jʊə, jɔ:	jə	Can I borrow *your* computer?
	He	hi:	hɪ, ɪ	What does *he* do?
	Him	hɪm	ɪm	Leave *him* alone.
	His	hɪz	ɪz	She is *his* daughter.

Grammatical category	Word	Full form	Weak form	Example of a weak form
	She	ʃiː	ʃɪ	Where does *she* live?
	Her	hɜː	hə, ə	This is *her* house.
	We	wiː	wɪ	How can *we* help you?
	Us	ʌs	əs	A teacher gives *us* homework.
	Them	ðem	ðəm	Tell *them* the truth.
Prepositions	To	tuː	tə*	Let's go *to* the party.
			tʊ*	Time *to* eat breakfast.
	At	æt	ət	You can see the star *at* night.
	Of	ɒv	əv	She is afraid *of* dogs.
	For	fɔː	fə	Is that cake *for* eating?
	From	fɹɒm	fɹəm	I was asleep *from* three to six.
Conjunctions	And	ænd	ən, ənd	He is smart *and* handsome.
	But	bʌt	bət	She learns Japanese lamguage, *but* I learn Thai.
	Than	ðæn	ðən	I love you more *than* anything.
Articles	A	eɪ	ə	I have *a* big house.
	An	æn	ən	I saw *an* elephant in the zoo.
	The	ðiː	ðə*	Open *the* window.
			ðɪ*	I buy *the* eggs for making omelette.
Indefinite adjectives	Any	eniː	əniː	You can call me *any* time.
	Some	sʌm	səm	We got *some* books from the library.
	Such	sʌtʃ	sətʃ	She is *such* a beautiful girl.

Source: Adapted from Kelly, 2013

* The sound "də", "məs", "tə", and "ðə" occur before a consonant sound while the sound "dʊ", "məst", "tʊ", and "ðɪ" occur before a vowel sound.

Intonation

The pitch difference is divided into 2 characteristics: tone and intonation. Languages with tonality are characteristics is called *tone language*, such as Thai, Chinese, Lao Vietnamese, Burmese, Hill tribes in Thailand and African languages, etc. On the other hand, languages with intonation are characteristics is called *intonation languages*, such as English and other European languages. In tone language, each word has an integral pitch of a word. Thus, changing the pitch of a word can change its meaning of a word. However, the variation in pitch that is a significant part of the sentence is referred to as intonation. When someone speaks out, each word does not have a specific pitch, but it does have a specific pitch of a sentence or text. Therefore, changing the pitch will change the entire sentence's meaning. The meaning of a sentence is the grammatical meaning of the type of sentence: affirmative sentences, interrogative sentences, or commands, in which each sentence has a different pitch pattern, which does not change the meaning of the word, but changes the grammatical meaning of the sentence (Yiemkuntitavorn, 2013: 110).

Although many languages share certain characteristics of intonation, some of the patterns in which it is employed may be specific to certain languages. Unstressed syllables in Scandinavian languages, for example, are frequently pronounced higher pitch than stressed syllables, whereas we do the opposite in English. Italians frequently rearrange words in a sentence to emphasize a particular word, whereas we would do it through intonation (Kelly, 2013: 86-87).

Intonation is a pattern of a rising and falling pitch of the voice at the sentence level. In other words, it refers to the way the voice goes up and down in pitch when we are speaking. Much of the emotion, feeling, and attitude of the speaker can be conveyed through intonation. In the speech, the pitch of the voice is constantly changing. When the pitch of the voice rises, we have rising intonation; when it falls, we have falling intonation. There are various ways of marking intonation. Here, we shall use a simplified system that divides the pitches into four types (Prator & Robinett, 1985).

4	-	extra-high	3	-	high
2	-	normal	1	-	low

Most words in the sentences are on pitch 2, and the syllable or words which have primary stress (of words) usually has a high pitch of 3. Extra high-pitch of 4 is used to show surprise, panic, fear, and strong feelings.

Differences in intonation in a sentence can convey different expressions concerning emotion, feeling, attitude, or intonation of the speaking. For examples,

```
        3 ┐
   ——————│
   Thank │ you
         └——————
              2
```
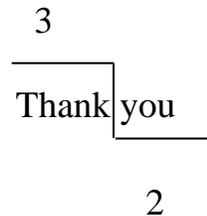
The pitch starts to be high at the word "thank" and down low at the word "you". The intonation in this format indicates that the speaker expresses sincere gratitude and is often applied to matters that the speaker deems important and is applied to listeners of higher age or higher social status to show respect.

```
            3 ┌——————
         ┌——│
   ——————│ you
   Thank │
        2
```
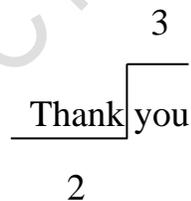
The pitch starts intermediate at the word "thank" and rises so high that the word "you". The intonation in this format expresses sociability and is often used for very trivial matters, often used to speak to friends or people of equal status.

Furthermore, the pitch also gives the speaker a special focus. In other words, if the speaker wants to emphasize the meaning of any word, the word will be heavily pronounced, and the pitch will be higher. As an example,

```
  3           3
 ___         ___
John| is my |uncle.
          2      |___
                  1
```
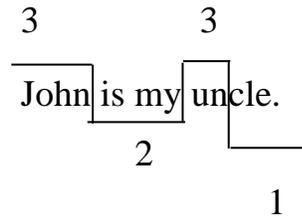
The emphasis is on "John" and the "first syllable of uncle".
It means **<u>John</u>** is my **<u>uncle</u>** (not other).

```
           3
          ___
John is |my uncle.
  2    |      |___
                1
```
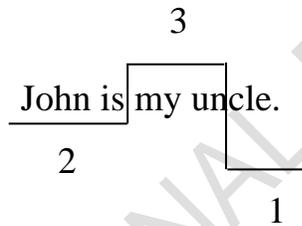
The emphasis is on "my" and the "first syllable of uncle".
It means John is **<u>my</u> <u>uncle</u>** (It's not someone else's.)

```
  3
 ___
Jane|bought a new house last week.
        2
```
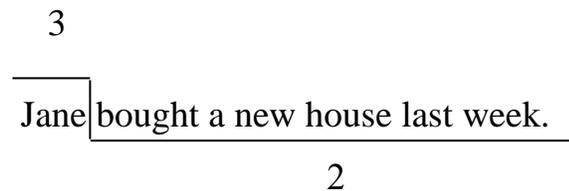
The emphasis is on "Jane". It means **<u>Jane</u>** is the one who bought it (not the others).

3

Jane bought a new house last week.

2   2

The emphasis is on "house". It means Jane bought a **house** (not anything else)

Moreover, the intonation at the end of the sentence is very important. Rising-falling intonation and rising intonation are the two most important patterns in spoken English. (Yiemkuntitavorn, 2013: 109-112; Ariyapitipun, 2015: 75-77). They are as follows:

1. Rising-falling intonation

Rising-falling intonation indicates finality. It is used at the end of the following kinds of sentences. For example,

1.1   Simple statements of fact

3

The apartment is modern.

2

1

3

He is studying Chinese.

2

1

1.2 Wh-questions

3

How | do you do?

1

3

Where | are you from?

1

1.3 Imperatives

3

Open | the door.

1

3

Take your | shoes | off.

2

1

1.4 Exclamations

3
Good job!
1

3
What a beautiful picture!
2
1

1.5 Tag-questions (agreement expected)

4
3
You won't be late for class, will you?   (expecting "No")
2   2   2

4
3
Joe likes this bicycle, doesn't he?   (expecting "Yes")
2   2   2

1.6   Short yes-no question (as a response)

A: My father got a promotion.

```
        3
      ____
          |
B:  Did |he?
        |____
           2
```

1.7   Lists

```
          3      3                        3
        ____   __                       __
       |    | |  |                      |  |
He bought a shirt,  a tie, and two pairs of trousers.
_____|    |_|  |_____|  |____
       2
```

2. Rising intonation

Rising intonation is normally used at the end of the following kinds of sentences:

2.1   Simple yes-no questions

```
                    3
                  _____
                 |
Can you speak |Chinese?
_____|
        2
```

```
                        3
                      _____
                     |
Have you ever been to |Thailand?
_____|
          2
```

2.2   A statement intended as questions

3

You like|it?

2

3

You want to|go?

2

2.3   Tag questions (real questions) and Tag questions after commands

3

We are going out for dinner, aren't|we?

2

3

Let's go out, shall|we?

2

2.4   Request

$$\overset{\displaystyle 3}{\underline{\text{Pass me some sugar,}}}\Big|\text{please.}$$
$$\underset{\displaystyle 2}{}$$

$$\text{Could you do me a favor,}\Big|\overset{\displaystyle 3}{\text{please?}}$$
$$\underset{\displaystyle 2}{}$$

Summary

In phonetics, stress refers to the amount of emphasis placed on a sound or syllable in speech, also called word stress. Unlike some other languages, English has a changeable stress system. This means that stress patterns can help discriminate between two words or phrases that appear to provide the same meaning. Stress is employed in all languages to make words more comprehensible on a word-by-word basis, and it is most noticeable in the pronunciation of individual words and their parts. Phrase or sentence level stress, on the other hand, is used to emphasize a specific feature of a given point, where phonetic stress leads the audience's attention to the most important aspects of the message.

Furthermore, on a subconscious level, intonation is an aspect of language that we are usually only aware of. You've also seen how intonation can be employed in a variety of ways. In the classroom, working on intonation can help students get a better comprehension of English as well as more expressiveness and articulacy. Intonation can sometimes help learners grasp how speakers feel about what they're expressing.

Exercises

Exercise 1

Directions: Read the following words and mark ´ on stressed syllables.

1) economic
2) perfect
3) photograph
4) universal
5) technology
6) latitude
7) impossible
8) characteristic
9) considerate
10) communication

Exercise 2

Directions: Circle the content words and underline the function words in the following sentences.

1) Jane sits on the window seat.
2) The kids will go to the beach next week.
3) They're going to London next week.
4) I don't understand the content of this chapter.

5) You should go to school now.

6) Adam has lived in New York for five years.

7) I went to Anna's party last night.

8) Jack had cooked dinner before his friends arrived.

9) Alice missed the bus; therefore, she was late for class.

10) They are well organized, as well as they are well mannered.

Exercise 3

Directions: Mark the intonation contour of the following sentences.

1) It's pretty good.

2) Be quiet.

3) I cannot do that.

4) Do you agree?

5) What are you doing?

6) Tim got the first prize.

7) When did he come?

8) She is coming, isn't she?

9) Jane goes to the new high school.

10) I love reading, swimming, and listening to music.

Chapter 8

Phonology

Phonology is the study of a language's sound patterns, including how distinct sounds are related and combined, as well as how we interpret and systemize sounds. Phonology is the study of the system and pattern of sounds found in different languages (Kelly, 2013: 9). The main goals of phonology are to discover basic and complicated sound patterns in specific languages, as well as the general principles that underlie sound patterns in all languages. (O'Grady et al., 2001). Despite the differences in focus, phonology and phonetics are closely related. The study of sounds in human language is common to both branches of linguistics. Phonetics studies the production and perception of speech sounds, whereas phonology studies how sounds are organized in a language. It's difficult to differentiate phonetics and phonology completely. In this chapter, we explore phonology and the basic unit of phonological analysis, the phonemes, and allophones.

Phonemes and allophones

Phonemes are the smallest units of sound that distinguish words from one another. The contrastive units of sound are the ones that can be employed to change the meaning. While *allophones* refer to the various ways of pronouncing a single phoneme depending on the phonetic environment. In other words, phonemes are abstract units and exist only in the mind of the speaker/listener, whereas allophones are the numerous ways in which each sound, or phoneme, is pronounced in different phonetic environments. As a result, a sound regarded as "the same" by speakers can be associated with "various" forms of pronunciation. (Timyam, 2010: 46; Collins, Mees, & Carley, 2019: 12).

Distribution of phonemes

In a language, phonemes are *contrastive* sounds that are distributed in a contrastive way. The principle for determining contrastive phonemes is

considering a ***minimal pair*** of words. Minimal pairs are extremely helpful in determining the phonemes of a language. It is defined as a pair of words with different meanings but only one sound difference in the same position. When one is replaced with the other in a term, the meaning of the word can change. We can know that two sounds are contrastive if they occur in a minimum pair and that they represent different phonemes in a language (Tuaycharoen, 2004: 23-24; Collins, Mees, & Carley, 2019: 58).

In English, for example, the phonemes /t/ and /p/ are distinct. As shown below, altering the two sounds generates a change in the meaning of a word (Timyam, 2010: 49).

tick	[**t**ɪk]	:	pick	[**p**ɪk]
cat	[kæ**t**]	:	cap	[kæ**p**]
stray	[streɪ]	:	s**p**ray	[s**p**reɪ]

From each word pair above, the words "tick" and "pick" are a minimal pair that differs only in the initial positions; "cat" and "cap" are a minimal pair that contrasts in their final positions; and "stray" and "spray" are a minimal pair that differs only in their second segments. The sound /t/ is present in all these pairs; however, it is substituted by /p/ in the words on the right at the same position. The differentiation in minimal pairs is based on sounds instead of letters, and each pair consists of one sound contrast.

Let's continue this process further. In addition to *pan*, for example, we could also make *man*, *fan*, *can*, *ran*, etc. We can change the vowel instead of changing the initial consonant, as in *moon*, *mean*, *men*, and *mind*. We can also alter the last consonant in words like *can*, *cap*, *cat*, and *cash*. A collection of words distinguished in these ways is termed a ***minimal set*** (Collins, Mees, & Carley, 2019: 12).

Distribution of allophones

Allophones are *non-contrastive* sounds because allophones cannot create different words which lead to different meanings. On the other hand, they made a variety of different sounds which are interpreted as one meaningful unit.

The distribution of allophones can be classified into 2 categories as follows (Timyam, 2010: 49-50; Ariyapitipun, 2015: 60):

1. Complementary distribution

That is, the allophones do not appear in the same phonetic environment, only certain variants will occur in certain positions. Consider the distribution of the English allophones [pʰ], [p], [tʰ], [t], [kʰ], [k] below.

pan	[**pʰ**æn]	:	s**p**an	[s**p**æn]
till	[**tʰ**ɪl]	:	s**t**ill	[s**t**ɪl]
kin	[**kʰ**ɪn]	:	s**k**in	[s**k**ɪn]

[pʰ] and [p], [tʰ] and [t], [kʰ] and [k] do not occur in the same position. They are distributed in a complementary manner. [pʰ], [tʰ], and [kʰ] always occurs word-initially whereas [p], [t], and [k] are generally found after the letter "s"

There are no minimal pairs in which the two sounds contrast for complementary distribution because they never occupy the same position in a word. Furthermore, the occurrence of allophones is predictable. They can be considered as complements to each other; where one occurs the other cannot (Collins, Mees, & Carley, 2019: 113). For example, they can predict that the allophone [th] will appear in all English words that begin with the phoneme /t / and that the allophone [t] will appear in all English words that start with the phoneme /s/. Thus, they can determine which allophone of a phoneme will occur by providing a phonetic context.

Another example illustrates the complementary distribution as follows (Timyam, 2010: 41).

Phoneme	Allophones	Distribution	Examples
	[tʰ]	in word-initial position	*till, tan, tie*
/t /	[t]	after /s/ in word-final position	*still, style* *hat, port*
	[t˺]	in word-final position	*hat, port, cut*
	[ɾ]	between a stressed vowel and an unstressed vowel	*water, better*

[tʰ], [t], [t˺], and [ɾ] are in complementary distribution: [tʰ] occurs in word-initial position; [t] occurs after /s/; [t˺] occurs in word-final position; and [ɾ] occurs between a stressed vowel and an unstressed vowel.

Moreover, [t] and [t˺] are in free variation: both can occur in the word-final position.

2. Free variation

Allophones sometimes occur in free variation. This means that two or more sounds are in the same phonetic environment, but they do cause a difference in a word's meaning. In some phonetic contexts, a sound may be pronounced in more than one manner. For example,

Spelling	Unaspirated [t]	Unreleased [t˺]
kite	[kaɪt]	[kaɪt˺]
hat	[hæt]	[hæt˺]
meet	[mi:t]	[hæt˺]

English speakers may pronounce /t/ in the final position as an unaspirated [t] or unreleased [t˺]. Both can be found in the same position in

a word. The forms in each of these pairings, unlike the minimal pair, do not change in meaning; the two allophones do not generate different words. As a result, they are considered to be in a state of free variation.

Free variation is unpredictable. It is context-dependent and could be caused by a variety of contextual circumstances. However, the difference between the two or more sounds that are in free variation does not modify the meaning of the word (Zsiga, 2013).

Phonological rules

The phonemes that behave in the same way could be listed in the phonological rules of English. The rules for plural formation, possessive forms of nouns, and the 3rd person singular of the present tense of verbs are only a few examples. However, the rules are more explanatory if they demonstrate that these phonemes act similarly because they are members of a natural class, or set, defined by a common property (Ariyapitipun, 2015: 85).

1. Syllabification

The arrangement of segments into syllables is known as syllabification. The rules of syllabification dictate which segments can be combined with others and in what order they can appear in a language's syllable structure. No language allows every part to interact with the others. In English, for example, there are words like "man" and "cap", but there are no words like "amn" and "cpa" because a sequence of /cp/ at the beginning or /mn/ at the end of a syllable is not acceptable.

2. Syllable structure

Every language is made up of numerous smallest speech sound components known as phones. A phone by itself has no meaning, but it does when used in conjunction with others. Each language has its own phonological rules to govern which phones can be combined and in what order to produce a syllable or word. For example, the syllable construction formula in English is (C)(C)(C)(V)(C)(C)(C)(C). In this formula, C denotes a consonant sound, and V denotes a vowel sound which is the sole essential

element in an English syllable (Ronnakiat, 2015: 53). The following are some syllable constructions and examples for each.

V	e	/i:/
VC	own	/əʊn/
VCC	ask	/ɑːsk/
VCCC	ant	/ænts/
CV	see	/si:/
CCV	sky	/skaɪ/
CCCV	spray	/spreɪ/
CVC	meet	/mi:t/
CVCC	cold	/kəʊld/
CVCCC	ramps	/ræmp/
CVCCCC	texts	/teksts/
CCVC	skirt	/skɜːt/
CCVCC	front	/frʌnt/
CCVCCC	stamps	/stæmps/
CCVCCCC	twelfths	/twelfθs/
CCCVC	splash	/splæʃ/
CCCVCC	strand	/strænd/
CCCVCCC	scripts	/skrɪpts/

From the example, the word "own" fits the construction VC since the letters "o" and "w" are pronounced as a diphthong /əʊ/, and the letter "n" stands for a consonant sound. Another example is the word "texts" which fits the CVCCCC construction since the letter "t" represents a consonant sound /t/, the letter "e" represents a single sound /e/, and the letter "x" represents sounds /ks/, the letter "t" represents a consonant sound /t/, and the letter "s" represents a consonant sound /s/.

When compared to Thai phonology, the syllable construction formula differs as the Thai language allows only two consonant clusters in

the syllable initial position and none at the end position. Furthermore, different locations of some letters produce different sounds. For example, the letter " ล" is pronounced as /l/ in the initial position, but /n/ in the final position. Consequently, the word "เล่น" is transcribed as /**l**en/, while the word "ดล" is transcribed as /do**n**/. And some letters are silent at certain positions, such as the word "ศุกร์" that is transcribed as /sʊk/: the letter "ศ" is pronounced as /s/, the vowel "อุ" is pronounced as /ʊ/, the letter "ก" is pronounced as /k/, and " ร์ " is a silent sound. In addition, the construction that begins with V does not occur in the Thai sound system as in the following examples.

CV	ปี	/piː/
CCV	พลู	/pluː/
CCVC	กลอน	/klɔːn/
CVC	ศุกร์	/sʊk/

Japanese, on the other hand, contains few clusters, and learners may tend to add a vowel at the end of a word. In Spanish, The /sp/ cluster does not appear at the beginning of a word in Spanish (as in English words such as Spain, speak, and spy). As in L1, speakers will tend to put a /e/ before /sp/ (and /st/ and /sk/, for that matter), leading to pronunciations like /əˈspeɪn/, /əˈspiːk/, and so on (Kelly, 2013: 57-58).

3. Phonological rules

The occurrence of sound in English is governed by phonotactic principles: the position of consonants within a syllable is restricted. For example, /ŋ/ never occurs at the initial position of a syllable, and /h/ never occurs at the final position of a syllable.

Moreover, the total number and order of consonant clusters are allowed. English consonant clusters are allowed at both the syllabic initial and

final positions. Below are the phonological rules for the consonant cluster in English (Ariyapitipun, 2015: 86-95).

3.1 Consonant cluster at the initial position

3.1.1 Two-consonant clusters

The followings are the lists of English two-consonant clusters.

1)	/sf/	sphinx	/**sf**ɪŋks/
2)	/sk/	skate	/**sk**eɪt/
3)	/bl/	black	/**bl**æk/
4)	/fl/	flame	/**fl**eɪm/
5)	/gl/	glace	/**gl**æˈseɪ/
6)	/kl/	claim	/**kl**eɪm/
7)	/pl/	place	/**pl**eɪs/
8)	/sl/	slack	/**sl**æk/
9)	/sm/	smoke	/**sm**əʊk/
10)	/sn/	snack	/**sn**æk/
11)	/sp/	space	/**sp**eɪs/
12)	/br/	brace	/**br**eɪs/
13)	/dr/	drink	/**dr**ɪŋk/
14)	/fr/	fruit	/**fr**uːt/
15)	/gr/	grace	/**gr**eɪs/
16)	/kr/	crisp	/**kr**ɪsp/
17)	/pr/	price	/**pr**aɪs/
18)	/ʃr/	shrine	/**ʃr**aɪn/
19)	/tr/	trace	/**tr**eɪs/
20)	/θr/	thread	/**θr**ed/

21)	/st/	stand	/**st**ænd/
22)	/dw/	dwarf	/**dw**ɔːrf/
23)	/gw/	gweilo	/ˈ**gw**eɪləʊ/
24)	/kw/	question	/ˈ**kw**estʃən/
25)	/sw/	swallow	/ˈ**sw**ɑːləʊ/
26)	/tw/	twinkle	/ˈ**tw**ɪŋkl/
27)	/θw/	thwack	/**θw**æk/
28)	/bj/	beautiful	/ˈ**bj**uːtɪfl/
29)	/dj/	dual	/ˈ**dj**uːəl/
30)	/fj/	feudal	/ˈ**fj**uːdl/
31)	/gj/	gewgaw	/ˈ**gj**uːgɔː/
32)	/hj/	hue	/**hj**uː/
33)	/kj/	cube	/**kj**uːb/
34)	/mj/	museum	/**mj**uˈziːəm/
35)	/nj/	neural	/ˈ**nj**ʊərəl/
36)	/pj/	puerile	/ˈ**pj**ʊrəl/
37)	/tj/	tuba	/ˈ**tj**uːbə/
38)	/vj/	viewpoint	/ˈ**vj**uːpɔɪnt/

3.1.2 Three-consonant clusters

Three-consonant clusters in English are put together according to the formula. The first sound is always /s/, the second sound is always one of the voiceless stops: /p/, /t/, /k/, and the third sound is always one of the approximants and lateral: /w/, /j/, /r/, /l/. The followings are the combination of these sounds (Ronnakiat, 2015: 142).

1)	/spj/	spume	/**spj**uːm/
2)	/spr/	spray	/**spr**eɪ/
3)	/spl/	splat	/**spl**æt/
4)	/stj/	studio	/ˈ**stj**uːdiəʊ/
5)	/str/	strange	/**str**eɪndʒ/
6)	/skw/	squid	/**skw**ɪd/
7)	/skj/	skewed	/**skj**uːd/
8)	/skr/	scramble	/ˈ**skr**æmbl/
9)	/skl/	sclera	/ˈ**skl**ɪrə/

3.2 Consonant cluster at the final position

3.2.1 Two-consonant clusters

1)	/lb/	bulb	/bʌ**lb**/
2)	/rb/	carb	/kɑː**rb**/
3)	/bd/	robbed	/ro**bd**/
4)	/gd/	ragged	/ræ**gd**/
5)	/dʒd/	damaged	/ˈdæmɪ**dʒd**/
6)	/ld/	billed	/bɪ**ld**/
7)	/md/	framed	/freɪ**md**/
8)	/nd/	loaned	/ləʊ**nd**/
9)	/ŋd/	winged	/wɪ**ŋd**/
10)	/rd/	card	/kɑː**rd**/
11)	/ðd/	breathed	/briː**ðd**/
12)	/vd/	dived	/daɪ**vd**/
13)	/zd/	prized	/praɪ**zd**/

14)	/ʒd/	rouged	/ruːʒd/
15)	/lf/	elf	/elf/
16)	/mf/	triumph	/ˈtraɪʌmf/
17)	/nf/	Banff	/bænf/
18)	/rf/	wharf	/wɔːrf/
19)	/rg/	berg	/bɜːrg/
20)	/ldʒ/	indulge	/ɪnˈdʌldʒ/
21)	/ntʃ/	bench	/bentʃ/
22)	/rtʃ/	porch	/pɔːrtʃ/
23)	/lk/	bulk	/bʌlk/
24)	/ŋk/	sink	/sɪŋk/
25)	/rk/	mark	/mɑːrk/
26)	/sk/	ask	/æsk/
27)	/rl/	earl	/ɜːrl/
28)	/lm/	film	/fɪlm/
29)	/rm/	harm	/hɑːrm/
30)	/ln/	kiln	/kɪln/
31)	/rn/	barn	/bɑːrn/
32)	/lp/	kelp	/kelp/
33)	/mp/	stamp	/stæmp/
34)	/rp/	warp	/wɔːrp/
35)	/sp/	asp	/æsp/
36)	/fs/	knifes	/naɪfs/
37)	/ks/	likes	/laɪks/
38)	/ls/	feels	/fiːls/

39)	/ps/	sleeps	/sliː**ps**/
40)	/rs/	purse	/pɜː**rs**/
41)	/ts/	puts	/pʊ**ts**/
42)	/θs/	mouths	/maʊ**θs**/
43)	/rʃ/	marsh	/mɑː**rʃ**/
44)	/lʃ/	welsh	/we**lʃ**/
45)	/ft/	laughed	/læ**ft**/
46)	/kt/	liked	/laɪ**kt**/
47)	/lt/	melt	/me**lt**/
48)	/nt/	chant	/tʃæ**nt**/
49)	/pt/	chopped	/tʃɑː**pt**/
50)	/rt/	art	/ɑː**rt**/
51)	/st/	kissed	/kɪ**st**/
52)	/tʃt/	touched	/tʌ**tʃt**/
53)	/ʃt/	pushed	/pʊ**ʃt**/
54)	/dθ/	width	/wɪ**dθ**/
55)	/fθ/	twelfth	/twel**fθ**/
56)	/lθ/	wealth	/we**lθ**/
57)	/nθ/	ninth	/naɪ**nθ**/
58)	/pθ/	depth	/de**pθ**/
59)	/rθ/	earth	/ɜː**rθ**/
60)	/tθ/	eighth	/eɪ**tθ**/
61)	/lv/	involve	/ɪnˈvɑː**lv**/
62)	/rv/	serve	/sɜː**rv**/
63)	/bz/	cabs	/kæ**bz**/

64)	/dz/	heads	/he**dz**/
65)	/gz/	bags	/bæ**gz**/
66)	/lz/	balls	/bɔ:**lz**/
67)	/mz/	gyms	/dʒɪ**mz**/
68)	/nz/	coins	/kɔɪ**nz**/
69)	/ŋz/	wing	/wɪ**ŋz**/
70)	/rz/	cars	/kɑ:**rz**/
71)	/ðz/	breathes	/bri:**ðz**/
72)	/vz/	loves	/lʌ**vs**/

3.2.2 Three-consonant clusters

1)	/lbd/	bulbed	/bʌ**lbd**/
2)	/rbd/	disturbed	/dɪˈstɜ:**rbd**/
3)	/ndʒd/	arranged	/əˈreɪ**ndʒd**/
4)	/ldʒd/	bulged	/bʌ**ldʒd**/
5)	/rdʒd/	merged	/mɜ:**rdʒd**/
6)	/rld/	whirled	/wɜ:**rld**/
7)	/lmd/	filmed	/fɪ**lmd**/
8)	/rmd/	farmed	/fɑ:**rmd**/
9)	/lnd/	kilned	/kɪ**lnd**/
10)	/rnd/	burned	/bɜ:**rnd**/
11)	/lvd/	dissolved	/dɪˈzɑ:**lvd**/
12)	/rvd/	deserved	/dɪˈzɜ:**rvd**/
13)	/dzd/	adzed	/æ**dzd**/
14)	/nzd/	bronzed	/brɑ:**nzd**/

15)	/lfs/	Alf's	/æ**lfs**/
16)	/mfs/	nymphs	/nɪ**mfs**/
17)	/rfs/	dwarfs	/dwɔː**rfs**/
18)	/lks/	hulks	/hʌ**lks**/
19)	/ŋks/	sinks	/sɪ**ŋks**/
20)	/ŋθs/	lengths	/le**ŋθs**/
21)	/rks/	parks	/pɑː**rks**/
22)	/sks/	desks	/de**sks**/
23)	/lps/	yelps	/je**lps**/
24)	/mps/	humps	/hʌ**mps**/
25)	/rps/	dorps	/dɔː**rps**/
26)	/sps/	hasps	/hæ**sps**/
27)	/fts/	gifts	/gɪ**fts**/
28)	/kts/	objects	/ˈɑːbdʒe**kts**/
29)	/lts/	belts	/be**lts**/
30)	/nts/	plants	/plæ**nts**/
31)	/pts/	concepts	/ˈkɑːnse**pts**/
32)	/rts/	parts	/pɑː**rts**/
33)	/sts/	tests	/te**sts**/
34)	/dθs/	widths	/wɪ**dθs**/
35)	/fθs/	fifths	/fɪ**fθs**/
36)	/nθs/	plinths	/plɪ**nθs**/
37)	/pθs/	depths	/de**pθs**/
38)	/rθs/	berths	/bɜː**rθs**/
39)	/tθs/	eighths	/eɪ**tθs**/

40)	/lʃt/	welshed	/welʃt/
41)	/ntʃt/	bunched	/bʌntʃt/
42)	/rtʃt/	parched	/pɑːrtʃt/
43)	/lft/	delft	/delft/
44)	/mft/	galumphed	/gəˈlʌmft/
45)	/rft/	surfed	/sɜːrft/
46)	/lkt/	bilked	/bɪlkt/
47)	/ŋkt/	dunked	/dʌŋkt/
48)	/rkt/	barked	/bɑːrkt/
49)	/skt/	disked	/dɪskt/
50)	/rnt/	learnt	/lɜːrnt/
51)	/lpt/	helped	/helpt/
52)	/mpt/	bumped	/bʌmpt/
53)	/rpt/	burped	/bɜːrpt/
54)	/spt/	gasped	/gæspt/
55)	/dst/	amidst	/əˈmɪdst/
56)	/kst/	taxed	/tækst/
57)	/lst/	pulsed	/pʌlst/
58)	/nst/	condensed	/kənˈdenst/
59)	/ŋst/	amongst	/əˈmʌŋst/
60)	/pst/	eclipsed	/ɪˈklɪpst/
61)	/rst/	divorced	/dɪˈvɔːrst/
62)	/tst/	blitzed	/blɪtst/
63)	/rvz/	curves	/kɜːrvz/
64)	/rθt/	berthed	/bɜːrθt/

65)	/lfθ/	twelfth	/twe**lfθ**/
66)	/rmθ/	warmth	/wɔː**rmθ**/
67)	/ksθ/	sixth	/sɪ**ksθ**/
68)	/lbz/	bulbs	/bʌ**lbz**/
69)	/rbz/	adsorbs	/ədˈzɔː**rbz**/
70)	/ldz/	beholds	/bɪˈhəʊ**ldz**/
71)	/ndz/	bends	/be**ndz**/
72)	/rdz/	fords	/fɔː**rdz**/
73)	/rgz/	bergs	/bɜː**rgz**/
74)	/rlz/	purls	/pɜː**rlz**/
75)	/lmz/	helms	/he**lmz**/
76)	/rmz/	terms	/tɜː**rmz**/
77)	/lnz/	kilns	/kɪ**lnz**/
78)	/rnz/	earns	/ɜː**rnz**/
79)	/lvz/	solves	/sɑː**lvz**/

3.2.3 Four-consonant clusters

1)	/ŋkts/	adjunct	/ˈædʒʌ**ŋkts**/
2)	/mpts/	tempts	/te**mpts**/
3)	/ksts/	sexts	/se**ksts**/
4)	/rsts/	burst	/bɜː**rsts**/
5)	/lfθs/	twelfths	/twe**lfθs**/
6)	/ksθs/	sixths	/sɪ**ksθs**/
7)	/ŋkst/	jinxed	/dʒɪ**ŋkst**/
8)	/mpst/	glimpsed	/glɪ**mpst**/

9)	/rldz/	worlds	/wɜː**rldz**/
10)	/rpts/	excerpts	/ekˈsɜː**rpts**/

Summary

Minimal pairs, allophones, complementary distribution, and free variation are all phonemic features of the English language that can be recognized and characterized. Phonemes are the linguistically contrastive or significant sounds (or sets of sounds) of a language. Such a contrast is usually demonstrated by the existence of minimal pairs or contrast in an identical environment. Moreover, two phones may instead have complementary distribution, with environments that never overlap. This means that one phone has one set of environments while the other has an entirely separate set of environments. Another area is free variation. These sounds are merely variations in the pronunciation of the same phoneme and do not change the meaning of the word. Free variation can be found in various dialects of the same language. Finally, every language has a set of phonological rules that native speakers learn subconsciously. The rules assist us in recognizing what may appear to be irregularities in our language as predictable forms of speech. A non-native speaker may be unaware of these principles, making certain statements problematic for them. By being aware of these rules, a non-native speaker may become more native-like in his/her speech.

Exercises

Exercise 1

Directions: Listen to the sentences and circle the word you hear.

1) They are **boat**/**both** captains.

2) I don't want any **tank**/**thanks**.

3) It was a very big **part**/**path**.

4) My sister **taught**/**thought** about the Green House Effect.

5) The movie was about a **tin**/**thin** soldier.

6) He wants some **peas**/**peace**.

7) He has **knees**/**niece**.

8) My teacher has six **pens**/**pence**.

9) The **prize**/**price** is great.

10) She didn't like the **plays**/**place** at all.

Exercise 2

Directions: Explain the occurrence of the minimal pairs.

1) ship / sip / sheep

_____

_____

2) heat / hate / hit

_____

_____

3) hut / hat / hurt / heart

_____

_____

Exercise 3

Directions: Transcribe the following words and identify the syllable structures for these words by using the symbol C for a consonant sound and V for a vowel sound.

1) stand   _____   _____

2) shrimps   _____   _____

3) punched   _____   _____

4) cause   _____   _____

5) scripts   _____   _____

Exercise 4

Directions: Write English words for the following syllable structures

1) CVC   _____

2) VCCC   _____

3) CVCC   _____

4) CCVC   _____

5) CCVCC   _____

Chapter 9

Pronunciation teaching and activities

A lot of phonemic awareness is done in response to mistakes that students make in class. Such responsive teaching is and will continue to be, extremely necessary. When it comes to preparing a lesson, teachers commonly emphasize grammar and lexicon. Pronunciation should also be considered. To provide students with the whole picture and a better chance of communicating successfully, a class that focuses on specific language structures or lexis should include features of pronunciation.

The teaching of productive skills and the teaching of receptive skills are the two major principles of phonemic awareness. In terms of reception, students must learn to distinguish between phonemes, especially if such a distinction does not exist in their language. They must apply that knowledge to their production (Kelly, 2013: 15). The following are examples of pronunciation teaching and classroom activities.

Pronunciation teaching and activities

The teaching and activities on pronunciation are classified into four categories: consonant, vowel, word stress, and intonation. Each area contains teaching advice as well as sample lessons and activities that can be used to teach students in the classroom.

1. Consonant teaching

1.1 Tips for teaching consonants

The following suggestions will help students improve their consonant pronunciation. The suggestions are based on how English consonants are spoken and how non-native speakers learn them. (Lane, 2010: 123).

1) Draw students' attention to obvious consonant pronunciation hints.

2) Combine functional language or grammar work with pronunciation practice.

3) Encourage students to accurately pronounce consonant clusters.

4) Encourage students to pronounce final consonants to promote comprehensibility and grammatical accuracy.

1.2 Sample lessons and activities

These are some lessons and activities for teaching consonants. The activities below demonstrate certain consonants that are important or challenging for students to pronounce. The following examples could be used to teach other sounds as well (Lane, 2010).

Activity 1: /th/ sound: When is your birthday?

Level: Beginner

Activities:

1) Obtain the ordinal numbers 1-31 from the students. Using their standard abbreviations, write the ordinals on the board (1st, 2nd, 3rd, 4th). Provide feedback on how to pronounce "th". Model each ordinal from 1 to 31. Students repeat themselves.

2) Collect and write the months of the year on the board. Each month's name should be modeled. Students repeat themselves.

3) Write the question "When is your birthday?" on the board. Make a question model. Students repeat themselves. Provide feedback on the pronunciation of "th" in "birthday".

4) Students write a list of the months of the year on a piece of paper, leaving space after each month to write classmates' names and birth dates. Students go around the class asking each other about their birth dates and jotting down the information.

5) After the interviews are completed, ask about the birthdates of their peers. Provide feedback on pronunciation.

Activity 2: Flapped pronunciations of /t/ sound

Level: Intermediate

Activities:

1) On the board, write the word *ma<u>tt</u>er* and *ma<u>t</u>erial*. Ask students to listen to how the /t/ sound is pronounced while you model the words.

2) Explain that in *ma<u>tt</u>er*, the /t/ sound is pronounced as a fast /d/. Students should say *ma<u>tt</u>er* with the underlined consonants pronounced like a fast /d/. Explain that in the United States and Canada, /t/ and /d/ have this pronunciation when the preceding vowel is stressed. Students should be able to distinguish the flaps and use standard /t/ and /d/ in their speech.

3) Other common words with flaps should be added to the board, with stressed syllables capitalized and flaps underlined. Model the language.

WA<u>t</u>er   WRI<u>t</u>ing   PRE<u>tt</u>y   tomato

4) Ask students to volunteer words they have heard where /t/ or /d/ has an unexpected pronunciation.

Activity 3: /ŋ/: Present continuous and -ing

Level: Beginner

Activities:

1) Choose an image (or cartoon or picture story) from the course materials that illustrate individuals doing various activities before class.
2) Write the progressive form of two or three verbs that can be used to describe the picture (s) on the board in class (e.g., walking, talking, reading). Model the language. Students repeat themselves.
3) Demonstrate how /n/ and /ŋ/ are pronounced. Explain that the tip of the tongue is up, behind the top teeth when saying /n/. The tongue tip is down, behind the bottom teeth, with /ŋ/,
4) Ask students to describe what is happening by using a textbook picture (or cartoons or picture stories). Provide feedback on how to pronounce /n/ and /ŋ/.

Activity 4: Practicing the /ɹ/-/l/ contrast

Level: Low Intermediate / Intermediate

Activities:

1) Draw students' attention to the /ɹ/ and /l/ diagram. Model and explain the terms "right" and "light":
   - A contact (touch) sound is /l/. The tongue tip touches behind the top teeth.
   - Demonstrate the articulation of /l/ using a hand gesture. The top of the mouth is represented by the upper hand. The teeth are represented by the tips of the upper hand's fingers. The tongue is represented by the lower hand. Students should be aware that the tongue tip touches behind the teeth.

- /ɹ/ is not a contact (touch) sound. The tip of the tongue does not touch the top of the mouth.
- Explain with a hand gesture. The tip of the tongue begins to rise and fall. The tongue's tip is lower without touching the top of the mouth.

2) Write two sentences on the board, one with only words that start with /l/ (e.g., "Lovely Lisa loves Like") and the other with only words that start with /ɹ/ (e.g., "Ray Rivers reached Rome"). Students should say the sentences slowly, concentrating on the distinct articulations.

3) Minimal pairs. Make up some /l/ terms. Students repeat themselves. Make a list of three /l/ words for each student to say out loud. Pronounce the words correctly. Continue with the /ɹ/ words. Model the rows after that. Students repeat themselves. Make a list of three pairs for each student to say out loud. Pronounce the words correctly.

Minimal Pairs

light-right	late-rate	low-row
long-wrong	led-red	glass-grass
alive-arrive	fly-fry	play-pray

4) The teacher reads one word for each pair. Students circle the words they hear.

2. Vowel teaching

2.1 Tips for teaching vowels

The tips below are meant to help students improve their vowel pronunciation. The suggestions are based on how vowels are pronounced and learned by non-native speakers. (Lane, 2010: 168).

1) Direct students' attention to observable vowel characteristics.

2) Teach vowel sound spellings that are unusual or unclear.

3) Provide controlled practice for students to improve vowel pronunciation.

4) Use words or groups of words for issue vowel communicative practice.

5) Practice vowel pronunciation with grammar.

2.2 Sample lessons and activities

The activities in the sample lessons below can be applied in various ways, either to raise awareness of a pronunciation issue or to review knowledge already covered. However, they are all practice lessons and thus can form the basis for an extended lesson on pronunciation (Lane, 2010; Kelly, 2013: 40-41).

Activity 1: /i:/-/ɪ/: Presenting pronunciation

Level: All levels

Activities:

1) Model the words live and leave, extending both vowels and accentuating lip relaxation with live and lip widening with leave. Request that students describe the change they notice.

2) Ask each student to say live and leave on their own.

3) Instruct students to begin with /i:/ and dip their tongue slightly to pronounce /ɪ/

4) Write the selected minimal pairings in two columns on the board, numbered "1" and "2". The samples below are suitable for students at the beginning to low intermediate level.

1	2	1	2
eat	it	feet	fit
seat	sit	sleep	slip

leave	live	cheap	chip
reach	rich	steal	still
heat	hit	heel	hill
seek	sick	meal	mill
deep	dip	peel	pill

5) Make up some /i:/ words. Students repeat themselves. Then make a model of the /ɪ/ words. Students repeat.

6) Say a word from each pair and have students tell you which column it belongs in. If students are having trouble, try once more.

7) Request that students select a word for the class to identify. Pronounce the words properly.

8) The pair work should be modeled. Choose a word from one of the pairs and ask a student "How do you spell _____?" (For low-level students, write the question on the board.) The students should spell the word they heard. Choosing a different word, ask another student the same question.

9) Work in pairs. Students take turns asking questions about word spelling. Instruct them to carefully pronounce the words so that their partners will know what to spell. Circulate among the pairs and provide pronunciation feedback.

10) Review the activity with the entire class after the pair work. Provide feedback on the vowel pronunciation.

Activity 2: /i:/-/eɪ /-/e/: Sorting sound

Level: Intermediate

Activities:

1) Draw students' attention to the word list below

baby   stays   instead

says	break	say
bread	medicine	key
steal	breakfast	they
cheap	many	eight
receive	people	friend
again	believe	take

/i:/ Words	/eɪ / Words	/e/ Words
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

2) Students repeat the words after listening to them.

3) Students work in pairs to determine whether the underlined letters are pronounced as /i:/, /eɪ /, or /e/, and then put each word in the corresponding vowel column. As needed, the teacher circulates and demonstrates words.

4) Ask a volunteer to the board. Classmates will guide the volunteer on which words belong to the appropriate columns. Students practice saying the words once all the words are on the board, pronouncing each word in a column with the same vowel.

Activity 3: Minimal pairs: /æ/ and /ʌ/ sound
Level: Beginner
Activities:

1) To elicit one or two minimal pairs, the teacher uses flashcards or draws drawings on the board (for example hat, hut, cat, cut). These pairs are drilled both chorally and individually to help students recognize differences and practice expressing them.

2) The teacher then writes and drills the two phonemes (/h/ and /b/) on the board.

3) The teacher shows the pictures and asks the students to identify each one by sound.

4) Students are given a list of five to ten minimal pairs; they examine the pairs and try repeating each word to themselves, guessing which sound the words will make.

5) The teacher repeats the same sentences twice. *It's quite a big cat. Whose is that hat?* etc. Each sentence requires the students to circle the word from the list that they heard in the sentence.

6) Students compare their answers with their peers which can be repeated at this stage before receiving feedback from the class.

Activity 4: Phonemic bingo
Level: All levels
Activities:

1) The teacher creates bingo cards with a diverse set of phonemic vowel symbols. The number of sounds on each one should be the same.

2) Each student is given a card to play the game. The students check off or cover up the sounds that they have on their cards when they are called out one by one.

3) As students cross sounds off, the teacher asks them to write another example word on their cards. When a student has completed the card, he or she says "Bingo!" and the card is checked.

3. Word stress teaching

3.1 Tips for teaching word stress

The suggestions below are meant to help students distinguish between stressed and unstressed vowels and better predict which syllable is stressed. The recommendation is based on the characteristics of English word stress and the difficulties students encounter while dealing with it. (Lane, 2010: 20).

1) The length of stress vowels should be emphasized.

2) Present word groups with common stress patterns.

3) Students notice stressed syllables when the teacher pronounces a new language.

4) Help students learn how to pronounce unstressed vowels by using pronunciation spellings.

5) Emphasize that unstressed vowels have a short and imprecise sound, regardless of spelling.

6) Teach groups of Teach word groups that have consistent stress patterns.

3.2 Sample lessons and activities

Stressed and unstressed syllables are significant features in pronunciation. The teacher can assist students to be aware of stress in a variety of ways. Listening activities are particularly beneficial in raising word stress awareness. The following sample lessons include several suggestions for them (Lane, 2010).

Activity 1: Primary stress: Integrate stress, vocabulary, and reading

Level: All levels

Activities:

1) Perform the following steps before class:
   a. Choose a few polysyllabic words from the reading (or vocabulary practice) to work on stress and syllables.
   b. Mark the stressed syllable; ignore secondary stress. Determine the syllable-stress patterns in the selected words. In the words below, stress is marked with an acute accent (´).

invént	kídnap	recéive	pérfect
média	fáctory	cáncer	protéct
artifícial		président	ánimal
wélcome			

2) Identify the syllable patterns and write them as column heads on the board. Ask that students write the words and syllable patterns on a sheet of paper. Explain the notation: / represents a stressed syllable; ‿ represents a syllable without heavy stress.

   Stress patterns:

1. / ‿	2. / ‿‿	3. ‿ /	4. ‿‿ / ‿
kidnap	factory	invent	artificial
perfect	animal	receive	
media	president	protect	
cancer			
welcome			

3) Remind students of the first word on the list and model it once again. Students should count the number of syllables in the word. On the board, underline the syllables. Ask students to indicate which syllable is stressed on the board.

4) Students work in pairs to complete the assignment, underlining syllables, identifying the stressed syllable, and writing each word in one of the patterns.

5) Once all the words are in their correct columns, students need to practice repeating them one by one. Students should notice that the stress patterns of words in the same column are the same.

Activity 2: Stress with suffixes

Level: Intermediate / Advanced

Activities:

1) Students listen to and repeat the words below. Students should identify and indicate the stressed syllables (for all of these suffixes, the primary stress is on the syllable preceding the suffix: presidéntial, intelléctual, controvérsial, politícian, musícian, academícian, lógical, idéntical, ecológical, idealístic, realístic, energétic, responsibílity, intégrity, passívity, luxúrious, ambítious, courágeous).

2) Students offer other terms with these endings that they are familiar with. Mark the stressed syllables on the words they write on the board.

4. Intonation teaching

4.1 Tips for teaching intonation

The suggestions are proposed below. They offer specific suggestions for how to help students improve their intonation. (Lane, 2010: 95).

1) Teach students how to emphasize significant words to help them understand them.

2) Use short utterances to demonstrate intonation patterns.

3) Teach intonation patterns at the ends of sentences.

4) Work on the intonation of words that are communicatively useful and that the students are already familiar with.

5) Highlight intonation patterns with meaningless syllables to make them easier to hear.

6) In the classroom, combine intonation activities with other English skills.

7) Encourage students who speak in a monotone to communicate more.

4.2 Sample lessons and activities

Activity 1: Final intonation: Famous people

Level: Beginner

Activities:

1) Prepare cards with the names of notable persons your students will recognize before class (actors, politicians, musicians, school officials). Prepare as many cards as there are students.

2) Write the following questions on the board in class, changing the size of the words to indicate their relative prominence.

WHAT'S your **FIRST** NAME?

HOW do you **SPELL** it?

WHAT'S your **LAST** NAME?

HOW do you **SPELL** it?

3) Create an isolated rhythm-intonation pattern for each question. Both the question and the isolated patterns are repeated by the students.
4) As a demonstration, have one student ask the four questions to another student. Give suggestions for rhythm, intonation, and pronunciation. Repeat the procedure, next again choosing another student to demonstrate the questions.
5) Students ask each other the four questions in pairs.
6) Assign students to new pairs, each with a different card. Students pose the four questions on the board to one another and write their partners' answers. When a pair has finished their cards, they pass them to the next pair, who then repeats the exercise with cards from another pair.
7) After the pair work, let several students ask the same questions regarding the names on a classmate's current card (not their partners). Provide rhythm and intonation feedback.

Activity 2: Listing intonation: Colors, animals….

Level: Beginner

Activities:

1) Write the headings for the categories on the board. Select categories that students can expand on (e.g., animal, colors, family words, months). Ask students to come up with terms that fit into each category and write them on the board.
2) When the lists are finished, demonstrate listing intonation. Ask the question "What are the first three colors in the list?" Choose a student to answer.

3) Write the answer on the board with intonation lines. Students repeat.

red, blue, and green

4) Then ask, "What are the first four animals on the list" Write the answer on the board, showing the intonation lines. Students repeat.

5) Elicit intonation: Model each item on the list and ask students if your voice rises or falls as you say it. (Explain intonation: When you say the first few words, your voice rises.) Your voice drops as the list are completed.)

6) Select one of the categories on the whiteboard, such as colors. Students compete in three-person teams. One student begins by using listed intonation to name two different types of colors (e.g., red and blue). The following student repeats the first two items and adds a third (red, blue, and yellow). The third student repeats the second student's three items and adds a fourth (red, blue, yellow, and green). When someone forgets a color word or can't think of a new one, a new category is chosen.

British English and American English comparison

The two major models of English, General British (GB) and General American (GA), have some of the most important variants of English spoken worldwide. In teaching in class, knowing the distinctions between these two types is very important. The following themes will be used to describe the comparison: vowels, consonants, stress, and stress-related features (Yiemkuntitavorn, 2013: 36-37; Collins, Mees, & Carley, 2019: 213-215).

1. Consonants

The consonant system of General American accents is fundamentally similar to that of British accents and can be represented using the same phonemic symbols. Nonetheless, the following distinctions are as follows:

1) GA is rhotic, such as teacher /ˈtiːtʃər/; /ɹ / often functions as a syllabic consonant.

2) Most (but not all) Americans have yod-dropping after the dental and alveolar or the manners of plosive, nasal, and fricative /θ/, /t/, /d/, /s/, /z/, /n/, and /l/. In GB some words have a more common /j/ form. However, in America, this is not the normal form.

	GA	GB
due	/duː/	/d**j**uː/
new	/nuː/	/n**j**uː/
tune	/tuːn/	/t**j**uːn/
assume	/əˈsuːm/	/əˈs**j**uːm/

The sound /j/ when follow /t/, /d/, /s/, /z/ the sound will be /tj/, /dj/, /sj/, and /zj/ which the modern GB alternative /tʃ/, /dʒ/, /ʃ/, and /ʒ/ for them. For example, (Ronnakiat, 2015: 137-138)

/tj/	/tʃ/	statue	/ˈstæ**tʃ**uː/
/dj/	/dʒ/	educate	/ˈe**dʒ**ukeɪt/
/sj/	/ʃ/	issue	/ˈɪ**ʃ**uː/
/zj/	/ʒ/	visual	/ˈvɪ**ʒ**uəl/

2. Vowels

Compared with the consonants, there is less similarity between the vowel system of GA and GB. However, we can use the same symbols for the most part. The key distinctions are listed below.

1) Since GA (like most American varieties) is rhotic, there are discrepancies in words spelled with r. In GA the sounds of /ɑ:/, /ɔ:/, /ɜ:/, /ə/, /ɪə/, /ʊə/ take the form of a vowel followed by /ɹ /. The vowels have a special quality known as r-colorings. Some instances include the following:

	GA	GB
expert	/ˈekspɜ:**rt**/	/ˈekspɜ:t/
seashore	/ˈsi:ʃɔ:**r**/	/ˈsi:ʃɔ:/
particular	/pə**r**ˈtɪkjələ**r**/	/pəˈtɪkjələ/

2) American English represents /oʊ/ while /əʊ/ is used by British speakers. For example,

	GA	GB
brochure	/br**oʊ**ˈʃʊr/	/ˈbr**əʊ**ʃə/
homework	/ˈh**oʊ**mwɜ:rk/	/ˈh**əʊ**mwɜ:k/

3) British speakers use /ɑ:/ sound while GA (and other American varieties) represent /æ/ instead. For example,

	GA	GB
ask	/**æ**sk/	/**ɑ**:sk/
laugh	/l**æ**f/	/l**ɑ**:f/
chance	/tʃ**æ**ns/	/tʃ**ɑ**:ns/

4) For loanwords and many foreign names that are spelled with the letter "a", American English speakers pronounce it with /ɑ:/ while British speakers pronounce it with /æ/. For instance,

	GA	GB
pasta	/ˈpɑ:stə/	/ˈpæstə/
macho	/ˈmɑ:tʃəʊ/	/ˈmætʃəʊ/
kebab	/kɪˈbɑ:b/	/kɪˈbæb/

5) American English pronounces /ɜ:/ in the words while British speakers pronounce it with /ʌ/ instead. For example,

	GA	GB
hurry	/ˈhɜ:ri/	/ˈhʌri/
courage	/ˈkɜ:rɪdʒ/	/ˈkʌrɪdʒ/

6) British English pronounces /ɒ/ in the words while American speakers pronounce it with /ʌ/, /ɑ:/, / ɔ:/

		GA	GB
Pronouncing as /ʌ/	was	/wʌz/	/wɒz/
	what	/wʌt/	/wɒt/
Pronouncing as /ɑ:/	holiday	/ˈhɑ:ledeɪ/	/ˈhɒlədeɪ/
	pocket	/ˈpɑ:kɪt/	/ˈpɒkɪt/
Pronouncing as /ɔ:/	long	/lɔ:ŋ/	/lɒŋ/
	song	/sɔ:ŋ/	/sɒŋ/

7) Many words ending in -ile have /əl/ or syllabic /l/ in GA compare with /aɪl/ in GB. For instance,

	GA	GB
fertile	/ˈfɜːr**tl**/	/ˈfɜːt**aɪl**/
missile	/ˈmɪ**sl**/	/ˈmɪs**aɪl**/

3. Stress and stress-related features

The distribution of stress differs significantly between the British and the Americans. The obvious differences are as follows:

1) In British English, words adopted from French are usually stressed on the first syllable, but in American English, they are frequently emphasized on the final syllable.

	GA	GB
ballet	/bæˈleɪ/	/ˈbæleɪ/
brochure	/broʊˈʃʊr/	/ˈbrəʊʃə/
garage	/gəˈrɑːʒ/	/ˈgærɑːʒ/
perfume	/pərˈfjuːm/	/ˈpɜːfjuːm/

2) A small list of specific words demonstrating lexical variety follows. The pronunciations mentioned appear to be the most common on either side of the Atlantic.

	GA	GB
detail	/dɪˈteɪl/	/ˈdiːteɪl/
inquiry	/ˈɪnkwəri/	/ɪnˈkwaɪəri/
address	/ˈædres/	/əˈdres/
cigarette	/ˈsɪgəret/	/ˌsɪgəˈret/

3) Longer words ending in -ary, -ery, and -ory take secondary stress on those endings, and the vowel is neither reduced to /ə/ nor elided.

	GA	GB
military	/ˈmɪləˌteri/	/ˈmɪlətri/
cemetery	/ˈseməˌteri/	/ˈsemətri/
mandatory	/ˈmændəˌtɔːri/	/ˈmændətəri/

Summary

Instruction on pronunciation can be incorporated into other classes to enhance vocabulary, topics, and structures that students are already learning. Word stress practice, for example, can easily be implemented into a reading or vocabulary session. Course books' dialogue can be utilized to teach word grouping and intonation. Grammatical structures offer numerous chances for practicing pronunciation. Students can practice perception and/or production skills with a focus on pronunciation through controlled exercises.

In the classroom, teachers can often give visual clues about consonant pronunciations by emphasizing the shape of their mouths or utilizing hand gestures. Moreover, the teacher should have several opportunities to practice a specific vowel in controlled activities. Exercises can lead to highly controlled (for example, word repetition) to less controlled activities (e.g., creating dialogues and some types of games). Furthermore, students need to recognize the differences between General British (GB) and General American (GA) to pronounce the terms correctly and converse effectively. Communicative activities encourage students to use what they have learned in more typical speaking situations and to develop self-monitoring skills.

Exercises

Exercise 1

Directions: Plan a two-part practice lesson that includes work on consonant sounds that cause difficulties pronouncing. Try to incorporate a game or fun activity in the second part.

_____

_____

_____

_____

_____

_____

_____

_____

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Exercise 2

Directions: Plan a two-part practice lesson that includes work on vowel sounds that cause difficulties pronouncing. Try to incorporate a game or fun activity in the second part.

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Exercise 3

Directions: Plan a two-part practice lesson that includes work on word stress. Try to incorporate a game or fun activity in the second part.

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