UNIT 2
Source data for input / processing / voice

❖ Chapter 1  Getting familiar with non voice/TP/Back office
❖ Chapter 2  Getting familiar with Voice
Chapter - 1  Getting familiar with non voice/TP/ Back Office (5)

1. Familiarization on high volume data requiring processing
2. Understanding conversion of paper to images
3. Technology involved in the imaging
4. Concept of Split Screen
5. Latency Time
6. Rule Set Data Entry
7. Dependency Fields
8. Meeting high volumes of similar transactions
9. Concept of Exception Handling
10. Importance of Documentation
11. Consistency in Processing
12. Storage/ Access/ Retrieving of data

Learning Objectives:

After taking the course you will be able to:

- Define data-processing
- Understand the nature and scope of data processing
- Understand the concept of paper to images
- Understand the concepts of split-screen, latency time, rule set data-entry & exception handling
- Importance of documentation, consistency in processing & storage, access & retrieval of data

Introduction:

The BPO industry operates in two domains. The first is the voice-based process and the other is non-voice based or data process. In a voice based process the front line agents or technicians interact with the customers directly over the phone. Compared to this, the interaction in a non-voice process is based entirely on e-mail or chat. An additional form of a non-voice process is a data process. Data-process often involves maintenance of customers’ data, records and/or other confidential information. It also involves data conversion.

In simple terms data-processing is converting data into information. Hence it is also referred to as information services. Unlike traditional data-entry jobs that were more clerical in nature and involved less of attention, out-sourcing data-processing or back-office support jobs enables companies to concentrate more on their core competencies like sales, collections, banking etc while there is a third-party vendor to manage all their data.
The BPO governance model enables the BPO to take ownership of the process and adhere to service level agreements thus decreasing cost and improving efficiency. Generally, the outsourced processes are featured by low complexity, high inter-dependence & low strategic importance. However, the trend is changing day by day and more and more complex processes are being outsourced to different call centers.

**Familiarization on high-volume data requiring processing:**

Outsourcing data-processes has become an increasingly popular way to reduce cost and concentrate on the core competencies. However, most of the companies manage these needs in-house though they can execute them better and economise if they outsource these jobs.

In the past, these offices, factories, companies etc. had to maintain a lot of files as most of the data were stored in black and white or hard-copies. It needed more space to store and protect those files. Creating back-ups was also difficult as photocopies of the documents or records were as fragile as the originals and they required as much more space as the originals. Thus there was a need to implement a method to enable handling a lot of data with lesser data-loss risks. The emergence of computers as a tool to save these enormous amounts of data happened as a timely boon!

**Understanding conversion of paper to images**

In simple terms, conversion of paper files into computer files is referred to as paper to images. There are various levels of such a conversion. According to Advanced Computer Innovations, Inc, there are four levels of this conversion sequence.

**Level 1 (Viewable) - Convert as images only**

If you need to transfer paper documents to computer files for archival storage and occasional viewing, simply scanning them as images is usually sufficient. This is the least expensive option, but the converted files are not searchable for text, and can neither be updated nor edited.

**Level 2 (Searchable) - Convert as images and add text content for searches**

This is a suitable option for transferring paper documents to computer files for archival storage and viewing and also to enable a search for any text content. The paper documents are saved as image files, which is what you see when you view them. However, an unformatted text layer is added to each image. This layer is not viewable, so it need not be formatted. However, it contains searchable text that can be used to index, categorize and search your converted files.

**Level 3 (Web Publishing) - Convert to web pages for internet publishing**

This option is for converting paper-based information to computer files for publishing on the internet or the web. The paper documents are first scanned to images. Then, using OCR and layout extraction software, the text and layout of the scanned images is interpreted to produce HTML files for web publishing. This involves several considerations, such as:
• Interpreting and dealing with layout elements
• Handling multiple columns, text-boxes and insets
• Analyzing and converting tabular material
• Special processing of images and graphics
• Recognizing lists and auto-numbering
• Judicious hyper-linking

The converted HTML files may then be additionally organized or encapsulated into an integrated e-book, e-learning application or other web-based resource depending on your requirement and the nature of the information.

**Level 4 (Revisable) - Convert to fully formatted, revisable and functional documents**

This, by itself, is a complete option. Your paper documents are scanned into images and converted to text, but with the following additional considerations:

• Convert to editable text with formatting and layout
• Accurate conversion of multi-column layout
• Proper conversion of text-boxes and insets
• Correct layout and matching of tables and tabular material
• Font matching for your target requirements
• Proper formatting of lists and numbered paragraphs, with true auto-numbering
• Correct interpretation and placement of headers and footers
• True insertion of footnotes, endnotes and references
• Individualized attention to images and graphics
• Correct entry of equations, formulas and scientific/technical material

In addition to the special considerations and requirements, a professional completion may also need functioning table of contents, index and cross-references.

For example, paper documents containing technical drawings may require those drawings to be produced for a particular software platform to provide the highest level of usability and functionality.

**Concept of split-screen**

Gone are the days when people struggled to multitask using their PCs. In developing countries like India, computer literacy still remains a challenge due to economic constraints. Often the number of people who want to use computers is more than the number of computers available. This is also one of the major challenges for our schools. A multi-point enables children to use a computer simultaneously with each child having his/her own computer mouse and an on-screen cursor.

Split-screen technology enables a second user to plug in a second mouse and keyboard and split the screen into two sections. Thus both users can operate from a single computer simultaneously & independently. This may not be relevant for generic
applications but works well for data-entry, look-up & simple data-processing given that it splits the user's hardware cost into half.

**Importance of Documentation**

Documentation means maintaining records. All that is done needs to be documented for future reference for use as well as revisions. This future reference material can be used by you as well as others who may want to continue the same task for addition or revision. Documentation also assists mandatory legal obligations. For example when we go to a bank branch or call the branch, they ask for details such as our name, date of birth, address, last few transactions etc for verification to ensure the safety and security of our accounts. This verification is based solely on the documentation of previous interactions that the branch has had with us. Thus this stored information is not only reliable but can also be used repeatedly. Documentation is no-doubt expense-intensive but is a better alternative than starting something from the beginning. It is often useful in medical & legal documentation and supports well as a lifeline to the cases concerned.

**Rule set data entry:**

There are various rules set for the uniformity of data all over the world. Following are a few rules that must be followed while documenting data.

- Maintain an updated index as the idea of the index is to list all the words that will give the desired result on initiating a search.
- Spelling must be correct.
- Data must be accurate as accuracy leads to best results.
- Use upper case for the first letter of a paragraph and sentence. What follows in the sentence has to be in lower case.
- Refrain from punctuation unless specified to use.
- Refrain from using signs like /#/, *//, /./.
- Be careful with name rules i.e., use the full legal name and club two part names together for example Gagan Jeet Verma as Gaganjeet Verma.
- Use suitable prefix for example Mr. for male and Ms. for female. Periods are acceptable after the use of a title or prefix e.g., Captain., Mr. Use suffix if it’s a part of the legal name e.g., Jr.(junior), Sr.( senior)
- In order to write the address, omit punctuation like (,), (,), (#), (/), (-). However, when you write the address C/O (care of) is permitted.
- Use standard postal abbreviation like St for street, Ave for avenue, Ln for lane, St for saint, Ft for fort & Pt for Port.
- Use abbreviation for directions e.g., N for North, S for South, E for East & W for West. NE for Northeast & SW for Southwest.
- Phone numbers - International phone numbers consist of three parts. Enter the international phone number in the international country code field. DO NOT enter the dialing prefix of 011. Country code consists of one to four digits. City code consists of one to three digits. City code is often presented with zero in front of it. DO NOT enter the zero.

- E-mail address - Type addresses using lower/ upper case as you see them. Make sure that you don't leave empty spaces.

**Latency**

For the transfer of non-voice data, we rely on the internet connection often through e-mails or by updating web-pages. If you want to transfer a large file over your modem it might take several seconds, or even minutes. However, if you break the same files or folders into smaller ones, it may take lesser time. Irrespective of the size of the data, network devices go by a minimum time that cannot be shortened further. This is called the latency of the device. For a typical Ethernet connection the latency is usually about 0.3ms (milliseconds). This factor limits the speed of operations in non-voice processes; therefore, it is worth paying attention to ensure maximum output.
Chapter-2

Getting Familiar with voice

Learning Objectives:

After taking the course you will be able to:

- Understand the influence of regional accent on English language
- Understand grammar modification
- Pronounce vowel & consonant sounds correctly
- Know the importance of proper punctuation, intonation, blending, & rhythm
- Understand the importance of syllable stress, voice diction, clarity, & pitch
- Understand phonetics & transcription of messages
- Know the importance & validation of documentation

Introduction:

The English alphabet has 26 letters. Five out of these 26 letters are vowels and the rest are consonants. The scenario changes when we use these consonant and vowel sounds. For instance, the words ‘cement & sand’ start with different letters but give us the same initial sound /s/. However, the words ‘cement and cat’ though starting with the same letter ‘C’ give us two different sounds /s/ & /k/ respectively.

Thus the sounds exceed the number of letters in English.

People from all countries are now working and living in a globalized environment where communication from and to almost anywhere in the world may occur practically instantaneously. The advent of IT and IT enabled services have further heightened the requirement of a global language and it’s usage to communicate better. Therefore, it is of paramount importance to learn and use language the way it is and let it be devoid of grammatical as well as phonetic errors as far as possible. We will focus on some of the essential components of voice in this chapter.

Introduction of Regional accent & grammar modification:

Our first language often influences our second language i.e., English. Unconsciously we start using the sounds from our regional language when we speak in English. This is referred to as regional accent (RA) or mother tongue influence (MTI). Our family, society and school play an important role in developing the kind of accent we possess, for example, people down south find it difficult to pronounce the letter “H”, They pronounce it as ‘hech’ instead of ‘eich’. They tend to pronounce ‘honest’ instead of ‘awnest’ as ‘h’ remains silent in the word.

In the usage of /s/ & /sh/ sounds in UP & Bihar belt for example, the word ‘Sugar’ is pronounced with a /s/ instead of /sh/. This poses a major communication barrier while interacting with global customers. Thus there is a need to know the sounds correctly, practice them and use them effectively. This helps in communicating better and people across the world comprehend you without straining their ears or misinterpreting the message.
Correct Vowel and Consonant pronunciation:

In order to understand vowel and consonant sounds, you must know the concept of phonetics. Phonetics is the scientific and systematic study of speech sounds. Languages are phonetic or non-phonetic.

1. Phonetic: Where there is a one-to-one correspondence between spelling and pronunciation i.e., you read whatever is written without any disconnects. Examples are found in Hindi, Portuguese & Russian.

2. Non-phonetic: No correspondence between spelling and pronunciation. For instance the words 'honest' and 'psychology' in English. Other examples can be found in French and German.

Phonetically speaking, we are not looking at the number of letters, but the number of sounds needed to vocalize what we call Standard English. This again varies from the number required for British English or Indian English. American English requires 41 sounds.

<table>
<thead>
<tr>
<th>Standard sounds: 41</th>
<th>Consonants - 24</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Vowels - 17</td>
</tr>
</tbody>
</table>

Differences between vowels and consonants:

Vowels:

Vowels are known as free sounds as while voicing them there is no obstruction in the air stream. All vowels are voiced when the vocal chords vibrate as they produce these sounds.

Consonants:

Consonants are produced when the air stream mechanism is obstructed; sometimes the vocal chords vibrate, producing a voiced consonant, and sometimes the vocal chords do not vibrate, resulting in a voiceless consonant sound.

The International Phonetic Association:

The IPA is the association that has designated a certain number of symbols called the IPA symbols, which are used to represent the various sounds. These are standard symbols to ensure uniformity in their usage across the world. These symbols find place in any standard dictionary for pronunciation.

The Vowels:

There are 17 vowel sounds in English. The vowel sounds are those that are produced with no obstruction to the passage of air. The air escapes unimpeded through the mouth. The tongue and lips change positions to produce each vowel sound, but they do not come into contact with one another. These different positions of the tongue and
the mouth differ very slightly and the difference can sometimes be hard to detect. Vowel sounds are the most important and they go on to determine the dialectical differences in English. The rule to pronouncing vowel sounds correctly is to open your mouth as far as possible.

The Vowel Sounds:

- /ə/- This is the smallest vowel sound also called the ‘schwa’. This is as small as someone punching your belly and your instantaneous verbal reaction to that ‘uh’. It could occur in the beginning, middle or end of a word. Examples: about, around, milkman, token, the.

- /ʌ/- This sound occurs in the medial position in words. Examples: brother, hut, mud, supper.

- /æ/- This sound is an elongated vowel sound. The ‘a’ is stretched to say ‘ae’. It occurs in the initial and in the medial position in words. Examples: apple, attitude, bat, hammer.

- /a:/ - The /a:/ is a long vowel that occurs usually in the initial and medial position in words. Examples: Fast, father, arm.

- /ɪ/- This is a short vowel sound which occurs in the initial and medial positions in words. Examples: interest, impede, bitten, hit, pity.

- /iː/- the long /iː/ sound occurs in the initial and medial position. Examples: eat, ego, Egypt, bee, sea

- /uː/- This vowel sound occurs in the medial position in words. Examples: put, wood, could, good.

- /uː/- This vowel is the longer version of the vowel /u/. It usually occurs in the medial and final position in words. Example: fool, moon, few, ado, feudal.

- /ɔː/- This vowel sound occurs in the initial and in the final position in words. Examples: organ, ornament, pour, door, gore.

- /e/- It occurs in the medial and final positions in a word. Example: get, metal, speculate, hesitate, and bend.

- /æ/- This is an ‘r’ shaded vowel that usually occurs in the final position. Examples: bother, gather, maker, wither.

- /ɜː/- A longer version of the /ɜ/ is the /ɜː/ sound. It usually occurs in the initial and medial position in words. Examples: urge, urgency, turn, fern, bird.

Diphthongs:

Diphthongs or vowel-glides are a combination of two vowel sounds. Two vowels glide into one another that they almost seem like one unit of sound. This is a concept seldom practiced by the Indian English-speaking population. Diphthongs are stretched out when they are articulated and the Indian tendency is to substitute these with pure vowels. American English has 5 diphthongs.

- /eɪ/- A combination of the /e/ and the /aɪ/ sounds it occurs in words like gate, make, wait, vain, able.

- /aɪ/- This diphthong is a combination of the /æ/ and /aɪ/ sounds and it occurs in words like fine, kind, bright, guide, die.
• /ɔɪ/- A more commonly used sound it occurs in words like boy, oil, ploy, voice, point.
• /au/- A combination of /a:/ and the /u/ sound it occurs in words like cow, plough, fowl, down, couch.
• /ou/- A typically American sound, it occurs in words like go, toad, ghost, post, and moan.

Vowel Sounds at a Glance

<table>
<thead>
<tr>
<th>Alphabet</th>
<th>Phoneme</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>/ɔ/</td>
<td>about, around, astound, bottle</td>
</tr>
<tr>
<td>a</td>
<td>/ʌ/</td>
<td>Cut, butter, abundance, supper</td>
</tr>
<tr>
<td>a</td>
<td>/æ/</td>
<td>Apple, fascinate, hammer, attitude</td>
</tr>
<tr>
<td>a</td>
<td>/a:/</td>
<td>Father, Last, farmer</td>
</tr>
<tr>
<td>a</td>
<td>/ə/</td>
<td>Killer, sister, farmer, wither</td>
</tr>
<tr>
<td>a</td>
<td>/ɜː/</td>
<td>Urgency, curd, fern, bird</td>
</tr>
<tr>
<td>e</td>
<td>/ɛ/</td>
<td>Get, metal, speculate, hesitate</td>
</tr>
<tr>
<td>i</td>
<td>/ɪ/</td>
<td>Interest, impede, input, hit,</td>
</tr>
<tr>
<td>i</td>
<td>/iː/</td>
<td>Feel, eat, ego, sea</td>
</tr>
<tr>
<td>o</td>
<td>/ɔː/</td>
<td>Oregon, orange, or, mandatory</td>
</tr>
<tr>
<td>u</td>
<td>/u/</td>
<td>Put, wood, should, full</td>
</tr>
<tr>
<td>u</td>
<td>/uː/</td>
<td>Fool, school, few, ado</td>
</tr>
</tbody>
</table>

Consonant Sounds

The basis for any speech-sound is air and its free passage or obstruction in the mouth by different parts of the mouth like the teeth, tongue, lips, upper palate, and the soft palate etc. We exhale air from our mouth while we speak English. The air that rushes out of the lungs and emerges from the mouth undergoes various modifications before it assumes the form of a speech-sound.

There are three systems or stages through which the air passes before it emerges as a speech-sound.

The systems for production of speech-sounds:

There are three systems in the human body that help in the production of speech-sounds.

1. Respiratory system: The lungs, from which air is inhaled and exhaled.  

The air stream mechanism:

• **Pulmonary regressive air stream**: Air comes out of the lungs to emerge from the mouth when you produce a sound.  
  Examples: English, Hindi
• **Pulmonary ingressive air stream:** Here you tend to take-in air as you speak
   Examples: African languages, Arabic languages

2. **Phonetary system:** The pair of lip-like structures called the vocal chords are vital to the phonetic system within the body. The air from the lungs passes through the vocal chords, making them vibrate for most sounds. When the vocal chords are open, the sound produced is voiceless, that is, without any obstruction. However, when they are closed, the air vibrates the vocal chords leading to voiced sounds.

   • **Voiced** -- Vocal chords are in a close position and vibrate as the air passes.

   • **Voiceless** -- Vocal chords are open and do not vibrate as the air passes.

3. **Articulatory system:** This is the most important and final stage before the sounds emanate from the mouth. This system includes the lips, tongue, teeth, hard-palate, soft-palate, nasal cavity, and jaw. The sound is determined according to how and which speech organs come into contact with one another and how the air is finally released from the mouth.
The Organs of Speech

Site of articulation -- The site of articulation is where the obstruction of air takes place. The classification is made by determining which speech organs obstruct the air. The classification is as follows:

- **Bi-labial** -- As the name suggests, the upper and the lower lip clamp together for a while to produce these sounds. Examples: /b/ as in Brave & /m/ as in Mike.

- **Labio-dental** -- The upper teeth come into contact with the lower lip. Examples: /f/ as in Fish, /v/ as in Victory.

- **Dental** -- The two rows of teeth and the tongue touch each other for a brief period. Example: /θ/ as in Thank you.

- **Alveolar** -- The alveolar ridge is the hard region just behind the upper teeth. The tip of the tongue touches the alveolar ridge to create an obstruction. Such sounds are called alveolar sounds. Example: /l/ as in lima, & /t/ as in Tango.
• **Post-alveolar** -- The post-alveolar region is just behind the alveolar region. The tip of the tongue touches the region just behind the alveolar ridge. Example: /r/ as in Romeo.

• **Palato-alveolar** -- The area just behind the post-alveolar and before the palatal is the palate-alveolar region. Example: /ʃ/ as in Ship.

• **Palatal** -- **Here** the middle of tongue touches the hard palate. Example: /j/ as in Yak.

• **Velar** -- **Here** the back of the tongue touches the soft palate or the velum. Example: /k/ as in Kite & /g/ as in golf.

• **Glottal** -- This is the opening between the vocal chords in the larynx. Example: /h/ as in Hotel.

**Manner of Articulation**

This refers to the way the air is finally released from the mouth. This air release is possible in six different ways. They are:

• **Plosive**: When the air is held together and the release is sudden with a little pop sound. Examples: /p/, /b/, /k/.

• **Fricative**: The active and passive articulators come close to each other and the air is released with friction. Examples: /t/, /v/.

• **Affricate**: The affricate is a combination of a plosive and a fricative. The articulators clamp together as in the case of a plosive, but the release is not sudden. The air is released slowly as in the case of the fricatives. Example: /tʃ/, /dʒ/

• **Nasal**: A nasal sound is produced when there is a complete closure of the oral passage and the air is exhaled through the nose. Examples: /m/, /n/, /ŋ/.

• **Lateral**: The air is released from the sides of the tongue with the tongue being held firmly to the alveolar ridge. Example: /l/

• **Semi-vowels or approximants**: These exist between a vowel and a consonant; the active and the passive articulators come close and the air is released without any friction. Examples: /w/, /j/

**Plosive Sounds:**

Based on the manner of articulation, six of the 24 consonant sounds are plosives. These sounds come out of the mouth with a gush of air. The same can be felt by holding your palm or a piece of paper in front of your mouth when you produce these sounds.

<table>
<thead>
<tr>
<th>Consonant</th>
<th>Articulation</th>
<th>Place</th>
<th>Manner</th>
<th>Initial</th>
<th>Medial</th>
<th>Final</th>
</tr>
</thead>
<tbody>
<tr>
<td>/p/</td>
<td>voiceless</td>
<td>Bilabial</td>
<td>Plosive</td>
<td>initial</td>
<td>medial</td>
<td>final</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>palatal</td>
<td>department</td>
<td>pop</td>
</tr>
<tr>
<td>/b/</td>
<td>Voiced</td>
<td>Bilabial</td>
<td>Plosive</td>
<td>Initial</td>
<td>Medial</td>
<td>Final</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Bubble, bark</td>
<td>tubular</td>
<td>tub</td>
</tr>
<tr>
<td>/t/</td>
<td>voiceless</td>
<td>Alveolar</td>
<td>Plosive</td>
<td>Initial</td>
<td>Medial</td>
<td>Final</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Touch temper taught</td>
<td>distinct</td>
<td>But</td>
</tr>
<tr>
<td>Consonant</td>
<td>Articulator</td>
<td>Place</td>
<td>Type</td>
<td>Initial</td>
<td>Medial</td>
<td>Final</td>
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<td>--------------------------</td>
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<td>---------</td>
</tr>
<tr>
<td>/d/</td>
<td>Voiced</td>
<td>Alveolar</td>
<td>Plosive</td>
<td>Donkey dumb dirty</td>
<td>Vindictive pardon</td>
<td>And</td>
</tr>
<tr>
<td>/k/</td>
<td>Voiceless</td>
<td>Velar</td>
<td>Plosive</td>
<td>king</td>
<td>hacker</td>
<td>Honk</td>
</tr>
<tr>
<td>/g/</td>
<td>Voiced</td>
<td>Velar</td>
<td>Plosive</td>
<td>goat</td>
<td>gaggle</td>
<td>mug</td>
</tr>
</tbody>
</table>

**Fricatives**: Nine out of the consonant sounds in English are fricatives. That means the active and passive articulators come in contact with each other and the air is released with friction.

<table>
<thead>
<tr>
<th>Consonant</th>
<th>Articulator</th>
<th>Place</th>
<th>Type</th>
<th>Initial</th>
<th>Medial</th>
<th>Final</th>
</tr>
</thead>
<tbody>
<tr>
<td>/f/</td>
<td>Voiceless</td>
<td>Labio-dental</td>
<td>Fricative</td>
<td>Graph, cough, fan, leaf</td>
<td></td>
<td></td>
</tr>
<tr>
<td>/v/</td>
<td>Voiced</td>
<td>Labio-dental</td>
<td>Fricative</td>
<td>Dove, victor, divine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>/θ/</td>
<td>Voiceless</td>
<td>dental</td>
<td>Fricative</td>
<td>Thin, thought, bath, with, anything</td>
<td></td>
<td></td>
</tr>
<tr>
<td>/ð/</td>
<td>Voiced</td>
<td>dental</td>
<td>Fricative</td>
<td>The, father, mother</td>
<td></td>
<td></td>
</tr>
<tr>
<td>/ʃ/</td>
<td>Voiceless</td>
<td>Palato-alveolar</td>
<td>Fricative</td>
<td>Sugar, shrimp, shove, hush</td>
<td></td>
<td></td>
</tr>
<tr>
<td>/ʒ/</td>
<td>Voiced</td>
<td>Palato-alveolar</td>
<td>Fricative</td>
<td>Pleasure, measure, treasure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>/h/</td>
<td>Voiceless</td>
<td>Glottal</td>
<td>Fricative</td>
<td>Hungry, hot</td>
<td></td>
<td></td>
</tr>
<tr>
<td>/s/</td>
<td>Voiceless</td>
<td>Alveolar</td>
<td>Fricative</td>
<td>Some, Susie</td>
<td></td>
<td></td>
</tr>
<tr>
<td>/z/</td>
<td>Voiced</td>
<td>Alveolar</td>
<td>Fricative</td>
<td>Please, zip, scissors</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Affricates**: Two out of the consonant sounds are Affricates i.e., a combination of plosives and a fricative. The articulators clamp together as in the case of plosives but the release is not sudden. The air is released slowly as in the case of fricatives.

<table>
<thead>
<tr>
<th>Consonant</th>
<th>Articulator</th>
<th>Place</th>
<th>Type</th>
<th>Initial</th>
<th>Medial</th>
<th>Final</th>
</tr>
</thead>
<tbody>
<tr>
<td>/tf/</td>
<td>Voiceless</td>
<td>Palato-alveolar</td>
<td>Affricate</td>
<td>Church, chip, chuck, chair</td>
<td></td>
<td></td>
</tr>
<tr>
<td>/dʒ/</td>
<td>Voiced</td>
<td>Palato-alveolar</td>
<td>Affricate</td>
<td>John, jump, jungle, jockey</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Nasals: Three of the sounds are nasals, i.e., the oral passage is closed completely and the air is exhaled through the nose.

<table>
<thead>
<tr>
<th>sound</th>
<th>voicing</th>
<th>place</th>
<th>manner</th>
<th>examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>/m/</td>
<td>Voiced</td>
<td>bilabial</td>
<td>nasal</td>
<td>Mat, mother, mum</td>
</tr>
<tr>
<td>/n/</td>
<td>Voiced</td>
<td>alveolar</td>
<td>nasal</td>
<td>Nap, naughty, knife</td>
</tr>
<tr>
<td>/ŋ/</td>
<td>Voiced</td>
<td>velar</td>
<td>nasal</td>
<td>Nothing, something, king, ring</td>
</tr>
</tbody>
</table>

Laterals: one of the consonant sounds is lateral as the air is released from the sides of the tongue with the tongue being held firmly to the alveolar ridge.

<table>
<thead>
<tr>
<th>sound</th>
<th>voicing</th>
<th>place</th>
<th>manner</th>
<th>examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>/l/</td>
<td>voiced</td>
<td>alveolar</td>
<td>Lateral</td>
<td>Love, language</td>
</tr>
</tbody>
</table>

Semi-vowels: The active and the passive articulators come close and the air is released without any friction.

<table>
<thead>
<tr>
<th>sound</th>
<th>voicing</th>
<th>place</th>
<th>manner</th>
<th>examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>/j/</td>
<td>Voiced</td>
<td>Palatal</td>
<td>Semi-vowel</td>
<td>Your, yak</td>
</tr>
<tr>
<td>/w/</td>
<td>Voiced</td>
<td>bilabial</td>
<td>Semi-vowel</td>
<td>Water, wine</td>
</tr>
<tr>
<td>/r/</td>
<td>Voiced</td>
<td>Post-alveolar</td>
<td>Semi-vowel</td>
<td>Rip, roar, terr</td>
</tr>
</tbody>
</table>

**THE CONSONANT TABLE**

<table>
<thead>
<tr>
<th></th>
<th>Bilabial</th>
<th>Labiodental</th>
<th>Dental</th>
<th>Alveolar</th>
<th>Post-Alveolar</th>
<th>Palato-Alveolar</th>
<th>Palatal</th>
<th>Velar</th>
<th>Glottal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plosives</td>
<td>p</td>
<td>b</td>
<td>t</td>
<td>d</td>
<td></td>
<td></td>
<td>k</td>
<td>g</td>
<td></td>
</tr>
<tr>
<td>Affricates</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>ʧ</td>
<td>ʤ</td>
</tr>
<tr>
<td>Fricatives</td>
<td>f</td>
<td>v</td>
<td>θ</td>
<td>ð</td>
<td>s</td>
<td>z</td>
<td>ι</td>
<td>ʒ</td>
<td>h</td>
</tr>
<tr>
<td>Nasals</td>
<td>m</td>
<td>n</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>η</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lateral</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>l</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Semi-Vowels</td>
<td>w</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>r</td>
<td>j</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

23
Practice Exercises:

Vowel – Sound Differentiation

Exercise 1:

<table>
<thead>
<tr>
<th>Ann</th>
<th>On</th>
<th>un~</th>
<th>Own</th>
<th>ain't</th>
<th>End</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ban</td>
<td>Bond</td>
<td>Bun</td>
<td>Bone</td>
<td>Bane</td>
<td>Ben</td>
</tr>
<tr>
<td>Can</td>
<td>Con</td>
<td>Come</td>
<td>Cone</td>
<td>Cane</td>
<td>Ken</td>
</tr>
<tr>
<td>Cat</td>
<td>Caught/cot</td>
<td>Cut</td>
<td>Coat</td>
<td>Kate</td>
<td>Ketch</td>
</tr>
<tr>
<td>Dan</td>
<td>Don/dawn</td>
<td>Done</td>
<td>Don't</td>
<td>Dane</td>
<td>Den</td>
</tr>
<tr>
<td>Fan</td>
<td>Fawn</td>
<td>Fun</td>
<td>Phone</td>
<td>Feign</td>
<td>Fend</td>
</tr>
<tr>
<td>Gap</td>
<td>Gone</td>
<td>Gun</td>
<td>Goat</td>
<td>Gain</td>
<td>Again</td>
</tr>
<tr>
<td>Hat</td>
<td>Hot</td>
<td>Hut</td>
<td>Hotel</td>
<td>Hate</td>
<td>Hit up</td>
</tr>
<tr>
<td>Jan</td>
<td>John</td>
<td>Jump</td>
<td>Joan</td>
<td>Jane</td>
<td>Jenny</td>
</tr>
<tr>
<td>Lamp</td>
<td>Lawn</td>
<td>Lump</td>
<td>Loan</td>
<td>Lane</td>
<td>Len</td>
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<tr>
<td>Man</td>
<td>Monster</td>
<td>Monday</td>
<td>Moan</td>
<td>Main</td>
<td>Men</td>
</tr>
<tr>
<td>Matter</td>
<td>Motto</td>
<td>Mutter</td>
<td>Motor</td>
<td>Made her</td>
<td>Met her</td>
</tr>
<tr>
<td>Nan</td>
<td>Non~</td>
<td>None/nun</td>
<td>Known</td>
<td>Name</td>
<td>Nemesis</td>
</tr>
<tr>
<td>Gnat</td>
<td>Not/knot</td>
<td>Nut</td>
<td>Note</td>
<td>Nate</td>
<td>Net</td>
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<tr>
<td>Pan</td>
<td>Pawn</td>
<td>Pun</td>
<td>Pony</td>
<td>Pain/pane</td>
<td>Pen</td>
</tr>
<tr>
<td>Ran</td>
<td>Ron</td>
<td>Run</td>
<td>Roan</td>
<td>Rain/reign</td>
<td>Wren</td>
</tr>
<tr>
<td>Sand</td>
<td>Sawn</td>
<td>Sun</td>
<td>Sewn/sown</td>
<td>Sane</td>
<td>Send</td>
</tr>
<tr>
<td>Shall</td>
<td>Sean</td>
<td>Shut</td>
<td>Show</td>
<td>Shane</td>
<td>Shen</td>
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<tr>
<td>Chance</td>
<td>Chalk</td>
<td>Chuck</td>
<td>Choke</td>
<td>Change</td>
<td>Check</td>
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<tr>
<td>Tack</td>
<td>Talk</td>
<td>Tug</td>
<td>Token</td>
<td>Take</td>
<td>Tech</td>
</tr>
<tr>
<td>Van</td>
<td>Von</td>
<td>Vug</td>
<td>Vogue</td>
<td>Vague</td>
<td>Vent</td>
</tr>
<tr>
<td>Wax</td>
<td>Want</td>
<td>Won/one</td>
<td>Won't</td>
<td>Wane</td>
<td>When</td>
</tr>
<tr>
<td>Yam</td>
<td>Yawn</td>
<td>Young</td>
<td>Yo!</td>
<td>Yeal!</td>
<td>Yen</td>
</tr>
<tr>
<td>Zap</td>
<td>Czar</td>
<td>Result</td>
<td>Zone</td>
<td>Zany</td>
<td>Zen</td>
</tr>
</tbody>
</table>

Exercise 2:

Reading the /ʌ/ sound
What Must the Sun Above Wonder About?

Some pundits proposed that the sun wonders unnecessarily about sundry and assorted conundrums. One cannot but speculate what can come of their proposal. It wasn’t enough to trouble us, but was done so underhandedly that hundreds of sun-lovers rushed to the defense of their beloved sun. None of this was relevant on Monday, however, when the sun burned up the entire country.
Exercise 3:

Reading the /u:/ sound
Büker Wulsey's Cükbük

Booker Woolsey was a good cook. One day he took a good look at his full schedule and decided that he could write a good cook-book. He knew that he could, and thought that he should, but he wasn’t sure that he ever would. Once he had made up his mind he stood up, pulled out a table, took a cushion, and put it on a bushel basket of sugar in the kitchen nook. He shook out his writing hand and put his mind to creating a good, good cook-book.

Exercise 4:

Reading the /u:/ sound
A True Fool

A true fool will choose to drool in a pool to stay cool. Who knew that such fools were in the schools, used tools, and flew balloons? Lou knew and now you do, too.

Exercise 5:

Reading the /i/ sound
Pick a Peak

People who pick peaks weekly seem to need to appear deep in order to be distinguished from mere pea-pickers. Peter, a champion peak-picker, thought he’d be even neater if he were the deepest peak-picker in Peoria, Phoenix and New Zealand. On his peak pea-picking week, though, Peter, a pea-picker’s peak picker, realized that he was not deep. It is not easy for a pea-picker to admit and it pitched Peter into a pit of peak picking despair. He was pitiful for six weeks and then lifted himself to hitherto unrevealed personal peaks.

Exercise 6:

Reading the /θ/ sound
The Throng of Thermometers

The throng of thermometers from the Thuringian Thermometer Folks arrived on Thursday. There were a thousand thirty-three thick thermometers, though instead of thousand thirty-six thin thermometers, which were three thermometers fewer than the thousand thirty-six we were expecting, not to mention that they were thick ones rather than thin ones. We thoroughly thought that we had ordered a thousand thirty-six, not a thousand thirty-three, thermometers, and asked the Thuringian Thermometer Folks to re-ship the thermometers; thin, not thick. They apologized for sending only a thousand thirty-three thermometers rather than a thousand thirty-six and promised to replace the thick thermometers with thin thermometers.

Exercise 7:
Reading the /v/ sound
The Vile VIP

When revising a visitor's version of a plan for a very well-paved avenue, the VIP was advised to reveal none of his motives. Eventually, however the hapless visitor discovered his knavish views and confided that it was vital to review the plans together to avoid a conflict. The VIP was not convinced, and averred that he would have it vetoed by the vice president. This quite vexed the visitor, who then vowed to invent an indestructible paying compound in order to avenge his good name. The VIP found himself on the verge of a civil war with a visitor with whom he had previously conversed easily. It was only due to his insufferable vanity that the inevitable division arrived as soon as it did. Never again did the visitor converse with the vain VIP and they remained divided forever.

Exercise 8:

Reading the /s/ sound
A Surly Sergeant Socked an Insolent Sailor

Sam, a surly sergeant from Cisco, Texas, saw a sailor sit silently on a small seat reserved for youngsters. He stayed for several minutes, while tots swarmed around. Sam asked the sailor to cease and desist but he sneered in his face. Sam was so incensed that he considered it sufficient incentive to sock the sailor. The sailor stood there a second, astonished, and then strolled away. Sam was perplexed, but satisfied, and the tots scamppered like ants over the see-saw.

Exercise 9:

Reading the /z/ sound
Allz Well That Endz Well

A lazy Thursday at the zoo found the zebras grazing on zinnias, posing for pictures, and teasing the zookeeper, whose nose was bronzed by the sun. The biggest zebra's name was Zachary, but his friends called him Zack. Zack was a confusing zebra whose zeal for a reason caused his cousins, who were naturally unreasoning, to pause their conversations. While they browsed, he philosophized. As they grazed, he practiced zen. Because they were Zack's cousins, the zebra's said nothing, but they wished he would muzzle himself at times.

Exercise 10:

Reading the /ŋ/ sound
Reading Nasal Consonant Sounds

The young King Kong can sing along on anything in the kingdom, as long as he can bring a strong ringing to the changing songs. He can only train on June mornings when there is a full moon, but June lends itself to singing like nothing else. Ding Dong, on the other hand, is not a singer; he cannot sing for anything. He is a man often seen on the green lawn on the Boston Open, where no one ever, ever sings.
Practice Exercise for Diphthongs:

/e/ + /ɪ/ = /eɪ /

A few steps you should take to date your mate, is to meet her at the gate at eight, with a rose as bait. She won’t hesitate 'coz she’ll be paid.

/aː/ + /ɪ/ = /ɑɪ /

I want mine with pine wine and want to find someone fine to dine till nine. That’s in-line with what is on my mind.

/ɔː/ + /ɪ/ = /ɔɪ /

The mother told the boy not to play with his toy. Then she dug the boy with his spoilt toy in the soil and put it to boil.

/aː/ + /ʊ/ = /ɑʊ /

The dowdy crouching cow cried, “Ouch!” when he sat with his pouch on the couch. He yelled aloud at mount count and was in doubt about the trout in his foul proud mouth.

/o/ + /ʊ/ = /oʊ /

Most glowing ghosts boast about their post till the host says, “Toast!” Go to the shallow ghost and roast him slowly in the hole.
Questions:

Very short answer type questions

a) What does IPA stand for?
b) What do you mean by a phonetic language?
c) What are vowel sounds?
d) What does MTI stand for?
e) What are consonant sounds?

Short answer type questions

a) Differentiate between plosive & fricative sounds?
b) Differentiate between vowel and consonant sounds?
c) What do you understand by regional accent?
d) Differentiate between voiced and voiceless sounds?
e) What is syllable stress? Explain with examples.

Long answer type questions

a) Describe the air-stream mechanism.
b) Describe manners of articulation with examples.
c) What are Diphthongs? Explain.
d) Why are the consonant and vowel sounds more in number than consonants and vowels?
e) Explain the importance of documentation?