Unit 3: English Vowels

This unit will, with the aids of explanation, illustrations and diagrams, describe the English monophthongs otherwise known as the English pure vowels.

1 INTRODUCTION

We will start with the description of the English pure vowel sounds through the trapezium, which indicates part of the mouth each of the vowel sounds is produced, and through the numbers.

2 OBJECTIVES

At the end of this unit, learners will be able to:

- explain what a trapezium is and demonstrate its importance to the study of the English pure vowel system
- draw, fill, and identify the English pure vowel trapezium by number
- identify and describe more accurately the English pure vowel sounds

3.1 The Trapezium and the Numbering System

A trapezium is described as a flat shape of four corners that has four straight lines. It is used in phonetics to represent the shape of the mouth or position of the tongue. It helps us to locate or identify which part of the mouth and position of the tongue that a vowel is produced. Thus, when we describe a vowel sound as close, half-close, half-open, open, front, centre or back, we are actually referring to the various positions in the mouth where the described vowel is produced.

![Trapezium Showing Positions of the 12 English Pure Vowels in the Mouth](image)

There are 12 English pure vowels. Sound /ɪ/ is a front sound. Sound /iː/ is produced when the mouth is closed. Sound /æː/ is produced if the mouth is fully open.

The numbering system of the English monophthongs used by Daniel Jones, which was abandoned by many followers, is as follows:

\[
\begin{align*}
1 & : i \\
2 & : e \\
3 & : æ \\
4 & : a \\
5 & : ð \\
6 & : ə \\
7 & : ʊ \\
8 & : ʌ \\
9 & : ə \ \\
10 & : ə \\
11 & : ɔ \\
12 & : ɔ\ \\
\end{align*}
\]

The numbering system facilitates reference to specific vowels during a class or group discussion.
3.2 Pure Vowel Numbers 1-4: /i: ɪ æ/

3.2.1 /i:/ and /ɪ/
These two are pure vowel sounds that are used as pairs to construct minimal pairs. They are both front vowels because they are produced towards the front part of the tongue. They are also close because the mouth is somehow in the closing position when the sounds are produced.

1. /i:/
This is a long, close, front, and high vowel sound. The occurrence of a contiguous colon-like symbol /:/ is IPA indication that the vowel is produced with a considerable length of time compared with a vowel without such a symbol. Vowel /i:/ can appear as:
e in: he, these, trapezium
ee in: bee, weed, canteen
ea in: plead, bead, reason
ie in: piece, field, siege
ei in: seize, receipt receive
i in: machine, police, prestige

2. /ɪ/
This is a short, close, front, and high counterpart vowel sound /i:/ above that can appear as:
i in: pick, rich, win
e in: pretty, market, wicked
a in: village, private
ie in: ladies cities
y in: city, symbol, rhythm

3.2.2 /ɛ/ and /æ/
We shall move on to the second pair, /ɛ/ and /æ/, numbered 3 and 4.

3. /ɛ/
In some textbooks, the phoneme may be written as /e/. This is a short, half-close neutral sound that often appears as:
e in: wet, bed, keg
a in: many, Thames
ea in: lead, dead read

4. /æ/
This is a short, half-open sound that often appears as:
a in: bat, man, marry
ai in: plait plaid

3.3 Vowel Numbers 5-7: /ɑː ɒ ɔː/
We now move to the discussion of vowel Nos. 5-7, which are often described as “rounded” because the lips form a round configuration during their articulations. Sometimes the lips form the letter “O” when the vowels are being produced.
3.3.1 /aː/
5. /aː/
This is a long, open, back, and low vowel. The elongation symbol is the colon. The mouth is wide open during the production of the sound, and it is produced towards the back of the tongue; and of course the tongue is at its lowest level. The sound appears in orthographical forms as:
a in: father, tomato, pass
ar in: far, car, bark,
ear in: heart, hearth
er in: clerk, sergeant
al in: calm, balm, calf
au in: aunt, laugh

3.3.2 /ɒ/ and /ɔː/
This pair of sounds shares identical description with vowel /aː/.

6. /ɒ/
This is short, back, and low. It appears in words such as:
o in: lot, sorry, log
a in: was, want, what
ou in: cough, trough,
ow in: knowledge

7. /ɔː/
This sound is a long, back and low vowel; it is always paired with vowel /ɒ/. The vowel appears as:
a in: war, talk, salt
or in: lord, horde, born
aw in: paw, jaw, law
ou in: bought, thought,
au in: caught, daughter, fault
ore in: before, more
oo in: floor, door
oar in: oar, board
our in: court, four

3.4 Pure Vowel Numbers 8-12: /ʊ u: ʌ ɜː æ/ 
3.4.1 /ʊ u:/
This pair of pure vowel sounds is close and produced at the back of the mouth. The lips take the shape of letter “O” when the sounds are being produced, so they too are described as rounded vowels.

8. /ʊ/
Of the pair of sounds, this is a short vowel. It appears as:
u in: put, full, pull
o in: wolf, woman, bosom
oo in: look, book, good, foot
ou in: could, should, would
9. /u:/
This is a long sound that appears as:
o in: do, move, lose
oo boost, cool, pool, fool
ou in: group, soup
u in: rude, June
ew, ue, ui, oe in: chew, blue, juice, shoe

3.4.2 /ʌ/
10. /ʌ/
This is a short open vowel articulated between the centre and the back of the mouth.
Many speakers of English outside the native cycle often drop it in place of vowel /ɒ/. It appears as:
u in: fun, hut, sun
o in: come, one, son
ou in: country, young, cough
oo in: blood, flood
oe in: does

3.4.3 /ə: a/
They are both articulated at the centre of the mouth while the lips are half open, and the tongue is neutral i.e. not raised, lowered or retracted.

11. /ɜ:/
This vowel is long and appears as:
ir, in: bird, first, girl
er, err, ear in: her, serve, err, earth, heard
ur, uurr, in: turn, church, nurse, purr
or in: word, world, work
our in: journey, courtesy

12. /ɒ/
This is the last of the pure vowel sounds; the shortest in duration and on many occasions it is sometimes referred to as an “indeterminate vowel” or schwa. Orthographically, it appears as:
i in: possible, e in: gentlemen, a in: woman
o in oblige, u in suppose, ar in: particular
er in: father, or professor, ou in: famous.

4. EXERCISES
  a. Explain what a trapezium is.
  b. Draw and fill the vowel trapezium.
  c. Identify the English vowels numbers.
  d. Identify the vowel sounds in each of these words: leisure, read (Vb+past), best, stick, mad, big, red, fish, rat and deep.
  e. Describe the lip configuration in the articulation of /ɒ/ and /ɜ:/.
  f. Identify the vowel sounds in each of these words: mad, big, red, and deep.