

SECTION

1

SHARING IDEAS AND ORAL INTERPRETATION



ORAL CONVERSATION

Phonology (Speech Sounds of a Ghanaian Language)

INTRODUCTION

Dear learner, you are welcome to this section which discusses the foundation of language (speech sounds). You will be introduced to the concepts of vowels and consonants of your language of study and how speech sounds are described (parametre). It will focus on where the speech sounds occur in words of a Ghanaian language. For example, where vowels and consonants can occur in a word of a Ghanaian language such as initial position, medial position, or final position of a word. Again, Dear learner you will be introduced to the distribution of vowels and consonants in their language, aiding them to form meaningful words and facilitate effective speaking and reading in the language. This section is essential for learners not only in the context of Ghanaian language studies but also to establish links with related subjects such as English and other languages. This section equips you with foundational knowledge and functional understanding of speech sounds and their role in language learning. In summary, you should be able to identify, explain, produce, and label vowel charts and consonant tables of your language of study.

After this section, you should be able to:

1. Describe the vowels of a Ghanaian language using the right parameters (e.g., lip posture, tongue height and part of the tongue).
2. Describe the consonants of the Ghanaian language using the right parameters (e.g., voicing, place of articulation and manner of articulation).
3. Explain the distribution of vowels of the Ghanaian language (e.g., word initial, medial and final).
4. Explain the distribution of consonants of the Ghanaian language (e.g., word initial, medial and final).

Key ideas

Production refers to the making or saying of a speech sound in language. Speech sound is a sound used in the formation of words for human communication. The production of speech sound involves obstruction which is the interruption of free flow of air during production of speech sounds. Sounds are distributed in languages and this refers to the place or position in a word where a sound can appear. Sound involves airflow which is a mass movement of air that is meant for the production of speech sounds. Another term for it is *airstream*.

TYPES OF SPEECH SOUNDS

Speech sounds can be grouped into two main types, namely vowels and consonants. It is the combination of these two types of sounds that produces words. In other words, all words are made up of individual speech sounds. For examples, the word *pan* consists of three individual speech sounds, that is, /p/, /a/, /n/. The sound /a/ is a vowel, whereas the sounds /p/ and /n/ are consonants. In the following topics we discuss both vowels and consonants focusing on how each is produced in a Ghanaian language.

The concept of vowel

The concept *vowel* refers as a speech sound in which production there is a little or no obstruction of the flow of air in the oral cavity. In other words, a speech sound which when being produced the air is not obstructed or it is minimally obstructed in the oral cavity is referred to as a vowel. Since in their production there is no or very little obstruction of airflow, vowels are comparatively heard louder when they are produced. Vowels are very important part of words. There cannot be a word without a vowel or vowel-like sound. This important role vowel plays in a word will later on in your second year be discussed when we are talking about the *syllable*.

Description of vowels

Dear learner, in describing vowels of a Ghanaian language, there are certain properties we use. These properties are often termed *parameters*. Parameters simply refer to the characteristics that a vowel possesses. The main parameters used in describing vowels are the tongue height, lip posture, and part of the tongue

used during the production of the vowel sound. In addition to the three, there is a fourth parameter called advancement of the tongue root in some Ghanaian languages such as Akan. Let us begin the discussions of these parameters.

Lip position/posture:

The parameter lip posture is used to determine the position your lips assume when you are producing a vowel. So, at this level, the lips assume two main postures or positions, namely rounded or unrounded. That is, whether the lips are rounded or they are not rounded when a vowel sound is being produced. Based on this posture of the lips, we can divide vowels of a Ghanaian language into two, namely ‘**rounded**’ and ‘**spread/unrounded.**’ Some examples of rounded vowels are /u, o, ɔ/. examples of unrounded vowels, on the other hand, are /i, e, a/.

Activity

At this point, produce rounded and unrounded/spread vowels of your Ghanaian language of study.

Tongue height/Height of the tongue:

This refers to the position of the tongue in reference to the root of the mouth when producing vowel sounds. It is assumed that when we are producing vowels, the mouth opens when we drop the jaw. This can be **high**, **mid**, or **low**. When we drop our jaws to the lowest possible position, the vowels produced in this way are referred to as low vowels. Examples of low vowel is /a/, and in some Ghanaian languages [æ]. When we open our mouth wide enough but not as low as when producing low vowels, then the vowels we produced are termed mid vowels. Some examples of mid vowels in a Ghanaian language are /e, o/. In producing high vowels, on the other hand, the mouth is significantly opened but not as wide as mid vowels, thereby allowing enough air to flow through the oral cavity. Some examples of high vowels in a Ghanaian language are /i, u/.

Activity

Begin practicing the [production of vowels](#) in your language of study focusing on how high or how low you raise your jaws or open your mouth.

Part of the tongue:

This parametre refers to the area of the tongue where the vowel sound is produced. It is assumed that when we are producing vowels, some parts of the tongue move. We cannot easily feel this movement though. Three parts of the tongue are assumed to be involved when a vowel sounds is being produced. These parts are the front part, middle part, and back part. Based on that, the parametre gives us three classes of vowels, namely **front**, **mid**, and **back** vowels. In producing front vowels, it is the front part of the tongue that moves. Some examples of front vowels of a Ghanaian language are /i, e, ε/. For the production of mid vowels, the middle of the tongue is assumed to move. Therefore, the following vowel is an example of a mid-vowel: /a/. For back vowels, on the other hand, as the name suggests, it is the back of the tongue that is involved in their production. Some examples of back vowels of a Ghanaian language are: /u, o, ɔ/.

Activity

Practice how to produce vowels of your language of study with focus on the part of the tongue.

Having finished discussing the main parametres we use in describing vowels of a Ghanaian language, there is a fourth parametre as mentioned earlier in this sub-strand which is not common among Ghanaian languages. This parametre is advancement of the tongue.

Advancement of the tongue root (ATR): (Please, discuss only if applicable in your language)

This parametre, which is prominent in a few Ghanaian languages including Akan, Dagbani, etc. It is used to determine the position the tongue root assumes when a vowel is being produced. By this parametre, we try to find out if there is tension or pressure on the tongue or not during production of vowels. When a vowel is produced with pressure on the tongue thereby causing the tongue root to draw back, we say that vowel is produced with Advanced Tongue Root (ATR) i.e. (+ATR) vowels. When vowels are produced with the tongue root in its natural neutral position, we label those vowels are Unadvanced Tongue Root i.e. (-ATR) vowels. Some examples of (+ATR) vowels are: /i, e, u, o/, and examples of (-ATR) vowels are /ɪ, ε, ɔ/.

Activity

Produce all the vowels of language Ghanaian language of study paying attention to the movement of your tongue root to distinguish advanced tongue roots (+ATR) from unadvanced tongue root (-ATR) vowels.

Activity

Complete the table using the parametres you have learnt for describing a vowel

| Vowel | Lip Posture | Tongue Height | Part of the tongue |
|-------|-------------|---------------|--------------------|
| /i/ | spread | High | Front |
| /e/ | | | |
| /u/ | | | |
| /ɛ/ | | | |
| /ɔ/ | | | |
| /o/ | | | |
| /a/ | | | |

Having discussed the nature of vowel sounds and the parametres used in describing the vowel sounds of your language, we now focus our attention on the production of consonants.

The concept of consonant

As was mentioned earlier in the section, consonant is another type of speech sounds apart from vowel. The concept consonant refers to a speech sound in which during production the breath, which we have termed airflow, is at least obstructed. Based on this explanation, we can contrast vowel and consonant by saying that while in the production of vowel there is very minimal or no obstruction of airflow, there is significant obstruction of airflow when producing consonants. We combined vowels and consonants form a word.

Description of consonants

Ƒe yere de yekyerekyerɛ nkonsonante no su a, yewo akwan ahorow bi a yefa do ye. Akwan ahorow ebiasa a yefa do kyerekyerɛ nkonsonante no su no nye: bea a yeye nnyegyee no, mbrɛ yesi ye nnyegyee no na meneba ne gyinabew. Yɛdze mfatoho a wofata bekyerekyerɛ akwanhorow ebiasa yi mu biara mu.

Bea a yeye nnyegyee no:

Iyi ye bea a kasa mfafakuwa ebien hyia wo ber a yereye konsonante ahorow no. Mbea a yeye Mfantse kasa nkonsonante ahorow nye anofamfa, ano-batase, se-ekyir, anomu nkurii dzendzen, anomu nkurii betɛɛ, menmu na dze wɛkeka ho. Mbea ahorow no mu bi na odzidzi do yi.

- **Anofafa:** Dem ngyegyeee yi ne ye mu no, hen anofamfa sor na famu no ka bo mu. Mfatoho: /p, b, t, d, m, k/.
- **Se-ekyir:** Se yereye se-ekyir nkonsonate a, tekyerema no ano ma no ho do ko se sor dze no ekyir . mfatoho /l, r, t, d, s, n/.
- **Ano-batase:** Dem ngyegyee yi ne ye mu no, anofamfa a wo famu no ma no ho do kehya se a wo sor no. Mfatoho /f/.
- **Anomu nkurii dzendzen:** Yereye dem nyegyee yi a, tekyerema no ne finimfin ma no mu do ko anomu nkurii dzendzen ho. Mfatoho: /j/.
- **Anomu nkurii betɛɛ:** Se yereye dem nyegyee yi a, tekyerema no ekyir twe no ho ko anomu nkurii betɛɛ ho. Mfatoho /k, g, ŋ/.

Activity

Provide examples of Ghanaian languages word that begins with each of the places of articulation you have learned.

Mbrɛ yesi ye ngyegyee no:

Iyi kyere kwan a kasa mfafakuwa no fa do dandan mframa a ofin hen horohoro mu ba no ber a yereye nkonsonante ahorow no. Yewo akwan ahorow a kasa mfafakuwa no fa do dandan mframa no bere a yereye nkonsonante no. Nkonsonante no bi ne ye mu no, kwan a woda anomu no mu tow prekoper ma mframa no ka ekyir. Afei, mframa no dze ahoden pue prekoper. Akwan a yefa do ye nkonsonante no mu bi na odzidzi do yi: egyinae, nkyermu, egyinae-nkyermu, hwenmu, nkyenmu, mboboe nye dza wɛkeka ho. Dza odzidzi do yi ye akwan ahorow a wofa do ye nkonsonante no nye no mu biara ho mfatoho.

- **Egyinae:** Dɛ mbɛ dzin no kyɛɛ no, dɛm nkasafua yi ne yɛ mu no, hɛn anomu kwan na dza ɔda hɛn hwenmu no tow. Mframa no begyina ekyir dze ahɔɔdzen pia ntowmu no ma obue prɛkɔpɛr. Mfatoho: /p, b, t, d, k, g, /
Hwenmu dze no so nye /m, n/.
- **Nkyermu:** Dɛm nkonsonante yi ne yɛ mu no, anomu kwan no nnsiw koraa mbom ɔyɛ tseaa ma mframa no dze ahokyer pue. Mfatoho: /f, s, ʃ /.
- **Egyinae-nkyermu:** Iyi mu no, su ebien na ɔda edzi, Mframa no dzi kan gyina ana ekyir no mframa no dze ahokyer epue. Mfatoho: /tʃ/ /dʒ/.
- **Tɛkyerɛma ne nkyɛnmu:** Dɛm nkonsonante yi ne yɛ mu no, tɛkyerɛma no ano no ma noho kɛtar se-ekyir hɔ. Afei tɛkyerɛma no ne nkyɛn nkyɛn no ba famu ma mframa no fa hɔ pue. Mfatoho: /l/.
- **Mbobɛ:** Iyi ne yɛ mu no, tɛkyerɛma no ano no kɛtar se-ekyir. Afei, mframa no pia ntowmu no ma ma tɛkyerɛma no pempem se-ekyir ntaataado. Mfatoho /r/

Meneba ne gyinabew

Esuafo, yɛbea a ɔto do ebiasa nye meneba ne gyinabew wɔ hɛn anomu. Sɛ yɛyɛyɛ nkonsonante, hɛn meneba mu nhoma no da su ebien edzi. Ngyegyɛe no bi wɔ hɔ a, ne yɛ mu no, nhoma no wosow na bi so wɔ hɔ a, ɔnnwosow. Sɛ ɔwosow a, yɛka dɛ ngyegyɛe no mu piw anaa ɔpo. Sɛ annwosow dze a, ɔno yɛdɛ no mu mmpiw anaa mmpo. Nkonsonante a no mu piw anaa ɔpo: /b, g, m, d / Nkonsonante a no mu mmpiw anaa ɔmmpo: /f, s, p, t, k, ʃ/

Activity

- 1a. Watch a YouTube video on how speech consonants sounds are produced. Please click here: <https://www.youtube.com/watch?v=dfoRdKuPF9I>.
- 1b. After watching the video, practise articulating all consonants by placing your forefinger at your larynx in front of your neck as you mention the consonants, and determine which of them are voiced and which ones are voiceless.
- 1c. Discuss the content in class based on the three parametres for describing consonants in your Ghanaian language of study.

Sound distribution

Ngyegyee no dwumadzi wɔ nsentɔw mu : Iyi kyere kasafua bi ne beebi a ngyegyee bi tum hye. Kasa biara wɔ na kasafua biara ne beebi a mbra ma ngyegyee bi kwan ma otum hye. Nkasafua ne mbea ebiasa a ngyegyee tum hye a ɔnoara so nye no dwumadzi nye **enyim**, **finimfin** na **ewiei**.

Ma yenhwe Mbaawor no dwumadzi.

Baawor no dwumadzi

Baawor no dwumadzi ye bea a baawor bi tum hye wɔ kasafua bi mu. Bi tum ba kasafua ahyese, finimfin anaa kasafua ewiei. Se bawor hye kasafua bi ase a, yese odzi dwuma wɔ kasafua enyim. Se ɔwɔ finimfin so a, yese odzi dwuma wɔ kasafua ne finimfin. Se owie kasafua no so a, yese odzi dwuma wɔ kasafua no ewiei. ɔda edzi de kasa biara wɔ mbre no mu ngyegyee no dwumadzi tse. Hye no nse de ngyegyee no bi tum dzi dwuma wɔ kasafua ahyese, finimfin na ewiei. Mfatoho:

1. asem
2. tam
3. asaaba

Mfatoho 1 mu no, /a/ hye kasafua no ase ntsi yeka de odzi dwuma wɔ kasafua no **enyim**. Mfatoho 2 mu no, /a/ wɔ kasafua no finimfin ntsi yeka de odzi dwuma wɔ kasafua no **finimfin**. Mfatoho 3 mu so, /a/ na owie kasafua no ntsi yese odzi dwuma wɔ kasafua no **ewiei**.

Activity 1

- a. List all the vowels in your Ghanaian language of study in the table below.
- b. For each vowel provide a corresponding word in your language that begins with the vowel.
- c. Share with your colleague your observation on the answers you provided regarding which vowels cannot occur at word-initial position.
- d. The pair should present their observations for class discussion.

NB: It is important to note that the vowels to be listed are the phonetic vowels (vowels we speak) and not orthographic vowels (vowels we write).

| Vowel | Word-initial |
|-------|--------------|
| e | |
| | |
| | |
| | |
| | |
| | |
| | |

Activity 2

1. List all the vowels in your Ghanaian language of study in the table below.
2. For each vowel provide a corresponding word in your language in which the vowels occur in the middle.
3. Share with your colleague your observation on the answers you provided paying attention to which vowels cannot occur at word-medial position.
4. The pair should present their observations for class discussion.

| Vowel | Word-medial |
|-------|-------------|
| a | |
| | |
| | |
| | |
| | |
| | |
| | |

Activity 3

- List all the vowels in your Ghanaian language of study in the table below.
- For each vowel provide a corresponding word in your language that ends with the vowels.
- Share with your colleague your observation on the answers you provided paying attention to which vowels cannot occur at word-final position.
- The pair should present their observations for class discussion.

| Vowel | Word-final |
|-------|------------|
| e | |
| | |
| | |
| | |
| | |
| | |
| | |

Consonant Distribution

The concept consonant distribution simply refers to the position in a word where a consonant can occur in a particular Ghanaian language. A consonant that occurs at the beginning of a word is referred to as **word initial** consonant. When a consonant occurs at the middle of a word, we refer to it as **word medial** consonant. When a consonant occurs at the end of a word, we refer to it as **word final** consonant. Let us note that some consonants can occur in all positions of a word. For example, in some Ghanaian languages, the consonant /m/ can occur in the three positions in a word.

In the following activities, we will consider consonants of a Ghanaian language and the position the consonants can occur in a word.

Activity 1

1. List all the consonants in your Ghanaian language of study in the table below.
2. For each consonant provide a corresponding word in your language that begins with it.
3. Share with your colleague your observation on the answers you provided focusing on consonants that cannot occur at word-initial position.
4. The pair should present their observations for class discussion. (Provide a table that reflects all consonants of your Ghanaian language of study).

NB: Please, note that the consonants to be listed are the phonetic consonants (spoken consonants) and not orthographic consonants (written consonants).

| Consonant | Word-initial |
|-----------|--------------|
| p | |
| b | |
| t | |
| d | |
| k | |
| g | |
| f | |
| m | |
| n | |
| w | |
| s | |

Activity 2

1. In pairs, list all the consonants in your Ghanaian language of study in the table below.
2. For each consonant provide a corresponding word in your language in which the consonants occur in the middle.
3. Share with your colleague pairs your observation on the answers.
4. The pair should present their observations for class discussion.

| Consonant | Word-medial |
|-----------|-------------|
| p | |
| b | |
| t | |
| d | |
| k | |
| g | |
| f | |
| m | |
| n | |
| w | |
| s | |

Activity 3

1. In your groups list all the consonants in your Ghanaian language of study in the table below.
2. For each consonant provide a corresponding word in your language that ends with the consonants.
3. Share with another group your observation on the answers.
4. The group should present their observations for class discussion.

| Consonant | Word-final |
|-----------|------------|
| p | |
| b | |
| t | |
| d | |
| k | |
| g | |
| f | |
| m | |
| n | |
| w | |
| s | |

REVIEW QUESTIONS

1. Vowels and consonants are speech sounds, in your own words explain two ways in which they differ.
2. Using the three parametres, describe each of the following vowels of your language of study: /o/, /i/, /ɛ/, and /ɔ/.
3. Using the parametres place of articulation, manner of articulation, and voicing, how do you describe the following consonants? /f/, /g/, /m/, /t/.
4. Draw a table similar to the one below and provide examples of words of your Ghanaian language of study in the positions in which vowels can occur.

| Vowel | Word initial | Word medial | Word final |
|-------|--------------|-------------|------------|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

5. Draw a table similar to the one below and provide examples of words of your Ghanaian language of study in the positions in which consonants can occur.

| Consonant | Word initial | Word medial | Word final |
|-----------|--------------|-------------|------------|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| Consonant | Word initial | Word medial | Word final |
|-----------|--------------|-------------|------------|
| | | | |
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| | | | |
| | | | |

SUGGESTED ANSWERS TO REVIEW QUESTIONS

The following are suggested responses to the review question.

1. While in the production of vowels there is little or no obstruction of airflow, in producing consonants there are varying significant degrees of obstruction of airflow. Again, while all vowels are voiced, not all consonants are voiced; some consonants are voiceless.
2. The following are the three parameters used for the description of vowels.

| Vowels | Part of tongue | Height of tongue | Lip position/posture |
|----------|----------------|------------------|----------------------|
| i. /o/ | Back | Mid | Rounded |
| ii. /i/ | Front | High | Unrounded |
| iii. /ɛ/ | Front | Mid | Unrounded |
| iv. /ɔ/ | Back | Mid | Rounded |

3. The following are the 3 parameters used in describing the following consonants: /f/, /g/, /m/, /t/.

| Consonants | Place of articulation | Manner of articulation | Voicing |
|------------|-----------------------|------------------------|-----------|
| i. /f/ | Labio-dental | Fricative | Voiceless |
| ii. /g/ | Velar | Stop (plosive) | Voiced |
| iii. /m/ | Bilabial | Stop (nasal) | Voiced |
| iv. /t/ | Alveolar | Stop (plosive) | Voiceless |

NB: Responses to questions four and five are Ghanaian language-specific. Therefore, the learners will do self-assessment.

EXTENDED READING AND RESOURCES

Dolphyne, F. A., (2006). *The Akan (Twi-Fante) language: Its sound systems and tonal structure*. Accra: Woeli Publishing Services.

Yule, G. (2010). *The Study of Language (4th ed.)*. Cambridge: Cambridge University Press.

Organs of speech: <https://youtu.be/lg9RkazFZLk?t=378>.

REFERENCES

Adomako, K., Odoom, J., & Sackitey, M. (2022). *Akan phonetics and phonology*. Adonai

Publication Ltd.

Dolphyne, F. A., (2006). *The Akan (Twi-Fante) language: Its sound systems and tonal structure*. Woeli Publishing Services.

Ladefoged, P. & Disner, S. F. (2012). *Vowels and consonants (3rd ed.)*. Wiley-Blackwell.

Yule, G. (2010). *The Study of Language (4th ed.)*. Cambridge University Press.

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