

SECTION

1

**SOUNDS OF THE
LANGUAGE**



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.

At the end of this section, you should be able to:

By the end of the lesson, 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 parametres. Parametres simply refer to the characteristics that a vowel possesses. The main parametres 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 parameter 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/			

Vowel	Lip Posture	Tongue Height	Part of the tongue
/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.

Kɔnya'asi pa'alegɔ (Description of consonants)

Tu san bɔta ti tu gãrese pa'ale kɔnya'aŋa, sɔa asi'a n boi ti tu tara ita sela n ta'ase bala la. Sɔa atã la tara gãresera pa'ala kɔnya'asi la de la: Kua la n yi'iri zi'an, kua la n yi'iri se'em la kua la miinjo. Tu wan sɔse pa'ale sɔa atã la zã'a gee loose yelebea bii kuusi magese pa'ale.

Kua la n yi'iri zi'an (Place of articulation)

Dwana wa de la zi'an ti tɔgum lɔgerɔ la tuyi ni paara taaba kɔnya'asi yi'a puan. Wuu la pugum de ni se'em tɔgum kuusi viiro la puan la, kua la n yi'iri zi'an Ghana tɔgum duma la puan de la Nɔgbama ayi kuusi, Nyina la nɔgbane, Nyina beɲa, Zelempulaka kuusi, Zeleɲa pooren kuusi, la sisesi. Kuusi la n yi'iri zi'an la kɔnya'ansesi n boi Ghana tɔgum puan n ɲwana boi tilum wa.

- Nɔgbama ayi kuusi (Bilabial): Nɔgbama ayi kuusi yi'a puan, nɔgbama ayi la ni lagum la taaba. Magese wuu, /p,b, m/.
- Nyimbeɲa (Alveolar): Nyimbeɲa kuusi yi'a puan, tu ni zɛke la zeleɲa la neɲa bɔbere pae zelempulaka la. Nyimbeɲa kuusi /t, d, s, n/.
- Nyina la nɔgbane (Labio-dental): Nyina la nɔgbane kuusi ni yi'ira ti fu saazuon nyina kalena la tiɲanuuren nɔgbane la. Magese wuu, /f/.
- Zelempulaka kuusi (Palatal): In producing palatal sounds, we raise the centre of our tongue towards the hard palate. Zelempulaka kuusi yi'a puan, tu ni zɛke la zeleɲa la tiɲasuka paara la zelempulaka la. Zelempulaka kua de la /y/.
- Zeleɲa pooren kuusi (Velar): Zeleɲa pooren kuusi yi'a puan, tu ni zã'ε la zeleɲa la poore bɔba lebesse pulagemaane la bɔba. Zeleɲa pooren kuusi sisesi de la /k, g/.

Activity

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

Kuusi la n yi'iri se'em (Manner of articulation):

Dwana wa de la sapebesum la yeŋega n gu'uri se'em kɔnya'asi yi'a puan. Kuusi la yi'a puan sapebesum la n gu'uri paara se'em la boi mɛ. Magese wuu, kɔnya'asi sisesi yi'a puan, sapebesum la ni kɔ'om gu la zã'a kalam gee ni le ũke base. Yeŋera la gu'a bii beɲere la n pae/zuni se'em la, tu wan ta'am pa'alɛ kɔnya'asi kuusi la sisesi n yi'iri se'em Gurenɛ puan. Yi'a lɔgerɔ la n ni lagum taaba kua la yi'a puan. Kɔnya'asi lɔgerɔ la tusetɔ de la Aguze'ele kuusi, Apɛregsiisa kuusi, Nuuren la Apɛregsiisa kuusi, nyɔa kuusi, Sapebesum gu'a n ka zo'e kuusi, la sisesi. Yelesi'a n boi tilum wa de la kuusi la n yi'iri se'em la kɔnya'asi n pa'ali si yi'iri se'em la Gurenɛ puan.

- **Aguze'ele kuusi (Stops):** Wuu yu'urɛ la pugum dɛna se'em la, aguzele kũusi yi'a puan, sapebesunsebo n yeseri la ni guze'ele mɛ bii beɲe ze'ele ŋwana fii wa. Sapebesunse'em n guze'ele la ni le ukɛ base la ŋwana kalam. Magesɛ wuu, /p, b, t, d, k, g, m, n/. San dɛna la zi'an ti aguze'ele sapebesum la ze'ele yɛsɛra na la, tu wan ta'am pu aguze'ele kũusi wa la buyi, n de wuu nuuren aguze'ele la nyɔan aguze'ele. Sapebesunsebo n guze'ele la san dɔla la nuuren yɛsɛra, tu yi'iri bala la apɛregeyese. Magesɛ wuu /p, b, t, d, k, g/. Letita me, sapebesunsebo n guze'ele la san dɔla la nyɔan yɛsɛra, tu yi'iri bala la nyɔan aguze'ele. Magesɛ wuu /m, n/.
- **Apɛregesiisa kuusi (Fricative):** Apɛregesiisa kuusi yi'a puan, sapebesum la ni kɔ'ɔm ka gu zã'a zã'a gee bu ni pugum tara la yɔ'ɔ ŋwana fii wa dɔla bini yɛsɛra fii fii ti gu'usego la ni bɔna bini. Apɛregesiisa kuusi miɲa sisesi n ŋwana /f, s/.
- **Nuuren la Apɛregesiisa kuusi (Affricate):** Nuuren la apɛregesiisa kuusi yi'a puan, fɔla ayi n boi bini; yia daana de la sapebesum la ni kɔ'ɔm gu la zã'a zã'a, gee ti folese'ere n tagelɛ la me sapeesunsebo n guze'ele la ni ugesa la ŋwana fii fii yɛsɛra. Kɔsina wa de la /kp, gb, ny, ŋm/.
- **Sapebesum gu'a n ka zo'e kuusi (Lateral):** Sapebesum gu'a n ka zo'e kuusi wa yi'a puan, zeleɲa la nɛɲa bɔba n ni kalena nyɛmbɛɛɲa basera ti sapebesum la dɔla nuurɛ la kinkɛlesi yɛsɛra. Magesɛ wuu //.
- **Zeleɲa lebegere kua (Trill):** Zeleɲa lebegere kua wa ni ita la zeleɲa la puan. Zeleɲa la n kɔ'ɔm dɛna sɛla yi'a kua la, gee lebegera paara nyɛmbɛɛɲa la n ka ba'am tara tuunɛ kua la yi'a puan la ŋwana kalam kalam. Zeleɲa lebegere kua la ŋwana /r/.

Miɲo (Voicing)

N zamesa, sose'ere n pa'asɛ butã ti tu tara gãresera pa'ala kɔnya'asi la de la miɲo. Tu san ni yi'ira kɔnya'asi la, tu kunkodunɔ la n boi kunkoyia la puan la bɔga ayi; daase'ere la miini mɛ bii la ka miini. Kunkoduɲɔ la san miina, kɔsesi ti tu yi'ira la de la miɲo kɔnya'asi. Gee kunkoduɲɔ la san ka miina kɔnya'asi la yi'a puan, tu yi'ri sisi la kɔnya'asesi n ka miini. Kɔnya'asi n miini de la /g/, /d/, /m/, /b/, gee kɔnya'asi n ka miini me de la /f/, /s/, /k/, /t/, la sisesi.

Activity

1. Watch a YouTube video on how speech consonants sounds are produced. Please click here: <https://www.youtube.com/watch?v=df0RdKuPF9I>.

2. 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.
3. Discuss the content in class based on the three parameters for describing consonants in your Ghanaian language of study.

KUUSI PUA (SOUND DISTRIBUTION)

Kuusi bɔŋa zi'an yele gi'i de la yelebire zi'an bɔba ti kua la bɔna tɔgum puan. Tɔgum woo tari la zi'an ti ba basera ti kua la bɔna. Zĩsesi sitã ti kuusi wan ta'am bɔna de la pɔsega zi'an, tiŋasuka la ki'ileŋa. Base ti tu pɔse sɔse kɔdaasi pua yia.

Kɔdaasi pua (Vowel Distribution)

Kɔdaasi pua gi'i de la zi'an bɔba ti kɔdaa la bɔna Ghana tɔgum yelebire puan. Kɔdaa san bɔna yelebire pɔsega, tu ni yeti ka boi la yelebire pɔsega bɔba, ka san bɔna la yelebire la yelebire tiŋasuka, tu yi'iri bala la yelebire tiŋasuka bɔba gee ka me san bɔna la yelebire la ki'ileŋa, tu yi'iri bala la yelebire ki'ileŋa bɔba. Ze'ele zuon gãresego la puan, la pa'alɛ suŋa suŋa ti tɔgum woo tari kɔdaasi pua wa la yima yima. La me kelum dɛna la nimmu'urɛ ti fu tɛra ti kɔdaasi la wan ta'am bɔna yelebire zĩ'isi sitã la zã'a tɔgum puan. Base ti tu bisɛ kɔdaasi pua la kɔdaa /a/ yelebɛa puan. Magesɛ wuu:

1. asaala
2. mam
3. ba

Magesego 1, kɔdaa la /a/ boi la yelebire la pɔsega. ŋwana iŋa, tu yeti /a/ boi la yelebire la pɔsega bɔba. Magesego 2 puan me, /a/ la boi la yelebire la tiŋasuka, bala la tu yeti /a/ wan bɔna la yelebire tiŋasuka. Magesego butã pua, /a/ de la pooren kua n ki'ilum yelebire la, bala la, /a/ wan ta'am bɔna yelebire ki'ileŋa.

Activity 1 (word-initial vowels)

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 that begins with the vowel.

3. Share with your colleague your observation on the answers you provided regarding which vowels cannot occur at word-initial position.
4. 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 (word-medial vowels)

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 (word-final vowels)

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 that ends with the vowels.
3. Share with your colleague your observation on the answers you provided paying attention to which vowels cannot occur at word-final position.
4. The pair should present their observations for class discussion.

Vowel	Word-final
u	

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 (word-initial consonants)

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 (word-medial consonants)

- a. In pairs, list all the consonants in your Ghanaian language of study in the table below.
- b. For each consonant provide a corresponding word in your language in which the consonants occur in the middle.
- c. Share with your colleague pairs your observation on the answers.

- d. 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 (word-final consonants)

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

Consonant	Word-final
p	
b	
t	
d	
k	
g	
f	

Consonant	Word-final
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

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

1. Dolphyne, F. A., (2006). The Akan (Twi-Fante) language: Its sound systems and tonal structure. Accra: Woeli Publishing Services.
2. Yule, G. (2010). The Study of Language (4th ed.). Cambridge: Cambridge University Press.
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