

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:

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 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/			

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.

## Description of consonants

Ne míedi be míadɔ xaxagbedɔ́ɔwo la, míezãa dzidzeti etɔ́ adewo. Dzidzeti etɔ́ siwo míezãna le xaxagbedɔ́ɔwo ɔ́ɔɔ me lae nye: dzɔtsofe, dodonɔ́nɔ́me, zinyenye. Míadzro dzidzeti etɔ́ siawo me ɔ́kaɔ́ka eye míazã kpɔ́ɔɔ adewo me.

### Dzɔtsofe:

Esia nye tefe si gbedɔ́ɔwo nuwo xea mɔ́ na dzitodzitomeya la le le xaxagbedɔ́ɔwo wɔ́wɔ́ me. Abe ale si míekpɔ́e le vidio si ku ɔ́e gbedɔ́ɔwo nu me ene la, xaxagbedɔ́ɔwo fe dzɔdzɔfe adewo nye nuyi eve, adu kple nuyi, nye nu, akpaɔ́ nu, ayiɔ́ nu kple bubuawo.

- Nuyi eve: Le nuyi eve xaxagbedɔ́ɔwo wɔ́wɔ́ me la, nuyi eveawo tena ɔ́e wo nɔ́ewo nu kplikplikpli hexea mɔ́ na gbedɔ́ɔwoya la. Le kpɔ́ɔɔ me: /p, b, m/.
- Nye nu: Le nye nu xaxagbedɔ́ɔwo wɔ́wɔ́ me la, míetea adɛa fe ɔ́gɔ́gbe ɔ́e nyea nu. Esia wɔ́nɛ be nye kple adɛ la xea mɔ́ na ya la fe dodo. Nye nu xaxagbedɔ́ɔwo fe kpɔ́ɔɔ adewo nye: /t, d, s, n/.
- Adu kple nuyi: Le adu kple nuyi xaxagbedɔ́ɔwo wɔ́wɔ́ me la, míetea dzigbeduwo ɔ́e anyimenuyi la nu. Efe kpɔ́ɔɔ nye /f, v/.
- Akpaɔ́ nu: Le akpaɔ́ nu xaxagbedɔ́ɔwo wɔ́wɔ́ me la, míetea adɛa fe titina ɔ́e akpaɔ́ la nu. Akpaɔ́ nu xaxagbedɔ́ɔwo fe kpɔ́ɔɔ nye /j/.
- Ayiɔ́ nu: Le ayiɔ́ nu xaxagbedɔ́ɔwo wɔ́wɔ́ me la, adɛ megbe la mimina ɔ́e ayiɔ́ la nu. Ayiɔ́ nu xaxagbedɔ́ɔwo adewo nye /k, g/.

### Activity

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

## Dodonɔ́nɔ́me

Enye nɔ́nɔ́me si me gbedɔ́ɔwo nuwo xe mɔ́ na gbedɔ́ɔwoya la le xaxagbedɔ́ɔwo wɔ́wɔ́ me. Le gbedɔ́ɔwo wɔ́wɔ́ me la, gbedɔ́ɔwo nuwo fe mɔ́xexe na ya la fe ɔ́ɔfe vovovowoe li. Le kpɔ́ɔɔ me, le gbedɔ́ɔwo adewo wɔ́wɔ́ me la, woxea mɔ́ na ya la fe dodo blibo le yeyiyi adɛ me hafi ɔ́e asi le ɔ́nu wɔ́dona zi ɔ́ka. Ku ɔ́e mɔ́xexe na ya la fe ɔ́ɔfe nu la, míefoa nu tso dodonɔ́nɔ́me vovovowo nu le Euegbe me. Xaxagbedɔ́ɔwo fe dodonɔ́nɔ́me fe kpɔ́ɔɔ adewo nye doula alo wowo, fufu, doula-fufu alo wowo-fufu, ɔ́time, domii kple bubuawo.

- Doula/wowo: Abe ale si ηkɔ ɔe dzesi ene la, le xaxagbediɔi siawo wɔwɔ me la, gbediɔiwɔnuawo xea mɔ na gbediɔiwɔya la blibo ɣeyiɣi aɔe hafi ɔea asi le eɣu wɔdona zi ɔeka ula. Le kpɔɔeɣu me /p, b, t, d, k, g, m, n/. Ku ɔe tefe si gbediɔiwɔya si woxe mɔ na la do to ηu la, womaa doula xaxagbediɔiwo ɔe hatsotso eve me. Esiawoe nye ηɔtime kple nume doula xaxagbediɔiwo. Ne ya si woxe mɔ na la do to nume la, woyɔa xaxagbediɔi si wowo la be doula xaxagbediɔi numetɔ. Kpɔɔeɣu: /p, b, t, d, k, g/. Le go bubu me la, ne gbediɔiwɔya si woxe mɔ na la do to ηɔtime la, xaxagbediɔi la zua doula xaxagbediɔi ηɔtimetɔ. Kpɔɔeɣu: /m, n, η/.
- Fufu: Le fufu xaxagbediɔiwo wɔwɔ me la, gbediɔiwɔnu eveawo mexea mɔ na ya la blibo o. Gbediɔiwɔnuawo mimina ɔe wo nɔewo ηu hegbɔea mɔ vi aɔe ɔi na ya la be wɔato xee kple fufu aɔe. Fufu xaxagbediɔiwo fe kpɔɔeɣu aɔewoe nye /f, s/.
- Doula-fufu alo wowo-fufu: ɔofe evee le gbediɔi siawo wɔwɔ me. Gbã la, gbediɔiwɔnuawo xea mɔ na ya la fe dodo blibo hafi ɔea asi le eɣu wɔdona xee. Wofe kpɔɔeɣu aɔewoe nye /ts, dz, tʃ, /dʒ/.
- Domii: Le domii xaxagbediɔiwɔwɔ me la, aɔea mlona ɔe nua me eye efe ηgɔgbe kea nyea ηu hexea numemɔ le nua me fe titina hegbɔea mɔwo aɔe fe axa eveawo dzi gbediɔiwɔya la tona dona. Xaxagbediɔi sia fe kpɔɔeɣue nye /l/.
- ɔuɔu: Le ɔuɔu xaxagbediɔiwɔwɔ me la, aɔea fe nugbɔ tena ɔe nyea ηu eye aɔea fe axawo tua numemɔ la. Ne edzɔ alea la, gbediɔiwɔya la fe dodo nɔa aɔea flom le nyea ηu si wɔnɛ be wɔnɔa dzodzom nɔa nyea ηu kam. Domii xaxagbediɔi fe kpɔɔeɣue nye /r/.

### Zinyenye:

Nusrɔla lɔlɔa, dzidzeti etɔlia si mɛzãna le xaxagbediɔiwo ɔɔɔ me lae nye zinyenye. Ne mɛle xaxagbediɔiwo wɔm la, lãwɔ siwo le afui la me la nɔa nɔnɔme eve me; wovuvuna alo womevuvuna o. Nenybe vekatiawo kple lãwɔawo uvu le xaxagbediɔi aɔe wɔwɔ me la, xaxagbediɔi la nyea zi eye mɛyɔa wo be xaxagbediɔi nyeziawo. Le go bubu me la, ne vekatiawo kple lãwɔawo mevuvu le xaxagbediɔi la wɔwɔ me o la, mɛyɔa xaxagbediɔi si mɛwɔ la be xaxagbediɔi manyeziwo. Xaxagbediɔi nyezi fe kpɔɔeɣu aɔewoe nye /g/, /d/, /m/, /b/ eye xaxagbediɔi manyeziwo fe kpɔɔeɣuwoe nye /f/, /s/, /k/, /t/, kple /ʃ/.



## 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 parametres for describing consonants in your Ghanaian language of study.

### Gbediqiwo fe nɔfe le nyawo me

Esia nye nɔfe si gbediqiwo nɔna le nyawo me la. Le gbeɓɔɓɔ ɔe sia ɔe me la, gbea fe se meɔe mɔ na gbediqi ɔe sia ɔe be wɔnɔ nɔfe ɔe sia ɔe le nya me o. Nɔfe etɔ siwo gbediqiwo tea ɲu nɔna le nya me la woe nye gɔmedzefe, titina kple nuwufe.

### Ablɔdegbediqiwo fe nɔfe le nya me

Esia nye nɔfe siwo ablɔdegbediqiwo nɔna le nyawo me la. Le Evegbe me la, ablɔdegbediqi aɔewo nɔa nya fe **gɔmedzefe**. Dewo nɔa nya fe **titina** eye bubuawo nɔa nya fe **nuwufe**. Ele vevie be nànya be ablɔdegbediqi aɔewo tea ɲu nɔa nɔfe etɔawo katã le Evegbe me. Wo dometɔ aɔewo tea ɲu nɔa nɔfe eve le nyawo me, ke nɔfe ɔeka ko ɔewo ya nɔna le nya me. Lé ɲku ɔe ablɔdegbediqi /a/ ɲu le nya siwo gbɔna la me.

1. amegbetɔ
2. dadi
3. gboma

Le kpɔɔɔ 1 me la, /a/ le nya la fe gɔmedzefe. Le go sia me la, míate ɲu agblɔ be /a/ nɔa nya fe gɔmedzefe. Le kpɔɔɔ 2lia me la, /a/ dze le nya la fe titina, eya ta míate ɲu agblɔ be /a/ nɔa nya fe titina. Le kpɔɔɔ 3lia me la, /a/ wu nya la nu eya ta míate ɲu agblɔ be /a/ wua nya nu le Evegbe me.

### 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)

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	

Consonant	Word-medial
d	
k	
g	
f	
m	
n	
w	
s	

### Activity 3 (word-final consonants)

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

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

## REFERENCES

1. Adomako, K., Odoom, J., & Sackitey, M. (2022). *Akan phonetics and phonology*. Adonai  
2. Publication Ltd.
3. Dolphyne, F. A., (2006). *The Akan (Twi-Fante) language: Its sound systems and tonal structure*. Woeli Publishing Services.
4. Ladefoged, P. & Disner, S. F. (2012). *Vowels and consonants (3<sup>rd</sup> ed.)*. Wiley-Blackwell.
5. Yule, G. (2010). *The Study of Language (4th ed.)*. Cambridge University Press.



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